

ATTACHMENT VIII
LABORATORY CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY
FORMS AND VELAP ACCREDITATION CERTIFICATION FORMS



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Laboratory Sample ID: 17D0225-01 Client Sample ID: MW-1B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6010C	153		2.0	10.0	1	ug/L
Cobalt	01	SW6010C	12.1		2.0	4.0	1	ug/L
Nickel	01	SW6010C	5.1	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	01	SW8260B	8.53		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	01	SW8260B	0.26	J	0.20	1.00	1	ug/L
1,2-Dichloroethane	01	SW8260B	0.46	J	0.30	1.00	1	ug/L
1,2-Dichloropropane	01	SW8260B	0.66	J	0.30	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260B	4.08		0.20	1.00	1	ug/L
Benzene	01	SW8260B	1.70		0.20	1.00	1	ug/L
Chlorobenzene	01	SW8260B	2.43		0.10	1.00	1	ug/L
Chloroethane	01	SW8260B	2.19		0.20	1.00	1	ug/L
Chloromethane	01	SW8260B	0.35	J	0.30	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260B	10.2		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	01	SW8260B	0.23	J	0.20	1.00	1	ug/L
trans-1,2-Dichloroethylene	01	SW8260B	0.33	J	0.20	1.00	1	ug/L
Trichloroethylene	01	SW8260B	1.37		0.20	1.00	1	ug/L
Vinyl chloride	01	SW8260B	2.66		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 4/20/2017 2:50:16PM

Laboratory Sample ID: 17D0225-02 Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	266		2.0	10.0	1	ug/L
Cobalt	02	SW6010C	18.8		2.0	4.0	1	ug/L
Nickel	02	SW6010C	74.8		2.0	10.0	1	ug/L
Selenium	02	SW6010C	17.9	J	15.0	50.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	5.55		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	1.16		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	13.6		0.20	1.00	1	ug/L
Benzene	02	SW8260B	1.51		0.20	1.00	1	ug/L
Chlorobenzene	02	SW8260B	11.3		0.10	1.00	1	ug/L
Chloroethane	02	SW8260B	0.94	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	5.96		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	02	SW8260B	0.38	J	0.20	1.00	1	ug/L
Trichloroethylene	02	SW8260B	1.98		0.20	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.87		0.20	0.50	1	ug/L
bis (2-Ethylhexyl) phthalate	02	SW8270D	1.17	J	1.11	2.78	1	ug/L

Laboratory Sample ID: 17D0225-03 Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010C	152		2.0	10.0	1	ug/L
Silver	03	SW6010C	2.1	J	2.0	10.0	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 4/20/2017 2:50:16PM

Laboratory Sample ID: 17D0225-04 Client Sample ID: MW-4

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6010C	57.4		2.0	10.0	1	ug/L
Cobalt	04	SW6010C	13.4		2.0	4.0	1	ug/L
Nickel	04	SW6010C	7.5	J	2.0	10.0	1	ug/L
Vanadium	04	SW6010C	3.1	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	04	SW8260B	2.45		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260B	0.23	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260B	7.98		0.20	1.00	1	ug/L
Benzene	04	SW8260B	1.80		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	3.92		0.10	1.00	1	ug/L
Chloroethane	04	SW8260B	1.19		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	3.92		0.20	1.00	1	ug/L
m+p-Xylenes	04	SW8260B	0.77	J	0.20	2.00	1	ug/L
o-Xylene	04	SW8260B	1.19		0.10	1.00	1	ug/L
Tetrachloroethylene (PCE)	04	SW8260B	0.35	J	0.20	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.60	J	0.20	1.00	1	ug/L
Xylenes, Total	04	SW8260B	1.96	J	0.30	3.00	1	ug/L

Laboratory Sample ID: 17D0225-05 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6010C	12.2		2.0	10.0	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17D0225

Client Name: Joyce Engineering, Inc.-Richmond
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 6, 2017 16:03
Date Issued: April 20, 2017 14:50
Project Number: 310.1701.03.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill

Enclosed are the results of analyses for samples received by the laboratory on 04/06/2017 16:03. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	17D0225-01	Ground Water	04/05/2017 08:40	04/06/2017 16:03
MW-2B	17D0225-02	Ground Water	04/05/2017 08:00	04/06/2017 16:03
MW-3A	17D0225-03	Ground Water	04/05/2017 07:35	04/06/2017 16:03
MW-4	17D0225-04	Ground Water	04/05/2017 10:40	04/06/2017 16:03
MW-20	17D0225-05	Ground Water	04/06/2017 08:45	04/06/2017 16:03



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	01	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:16	BLOD		1.0	5.0	1	ug/L	BG
Barium	01	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:13	153		2.0	10.0	1	ug/L	CWO
Beryllium	01	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	01	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	01	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:13	12.1		2.0	4.0	1	ug/L	CWO
Chromium	01	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		4.0	10.0	1	ug/L	CWO
Copper	01	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	01	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:15	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	01	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:13	5.1	J	2.0	10.0	1	ug/L	CWO
Lead	01	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	01	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:16	BLOD		1.00	5.00	1	ug/L	BG
Selenium	01	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		15.0	50.0	1	ug/L	CWO
Tin	01	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	01	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:16	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	01	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:13	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	01RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:16	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	01	71-55-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	01	79-00-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	01	75-34-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	8.53		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	01	75-35-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	01	563-58-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	01	96-18-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	01	120-82-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	01	95-50-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.26	J	0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	01	107-06-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.46	J	0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	01	78-87-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.66	J	0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	01	541-73-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	01	142-28-9	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	01	106-46-7	SW8260B	04/07/2017 12:55	04/07/2017 12:55	4.08		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	01	594-20-7	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	01	78-93-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	01	591-78-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	01	67-64-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	01	75-05-8	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	01	107-02-8	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	01	107-13-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	01	107-05-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	01	71-43-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	1.70		0.20	1.00	1	ug/L	JDW
Bromochloromethane	01	74-97-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	01	75-27-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	01	75-25-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	01	74-83-9	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	01	75-15-0	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		1.00	10.0	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW8260B	04/07/2017 12:55	04/07/2017 12:55	2.43		0.10	1.00	1	ug/L	JDW
Chloroethane	01	75-00-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	2.19		0.20	1.00	1	ug/L	JDW
Chloroform	01	67-66-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.35	J	0.30	1.00	1	ug/L	JDW
Chloroprene	01	126-99-8	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	156-59-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	10.2		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10061-01-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	01	124-48-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	01	74-95-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-8	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	01	97-63-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	01	100-41-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	01	87-68-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	01	74-88-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	01	78-83-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	01	179601-23-1	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	01	126-98-7	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	01	80-62-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	01	107-12-0	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	01	100-42-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.10	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.23	J	0.20	1.00	1	ug/L	JDW
Toluene	01	108-88-3	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-5	SW8260B	04/07/2017 12:55	04/07/2017 12:55	0.33	J	0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10061-02-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-01-6	SW8260B	04/07/2017 12:55	04/07/2017 12:55	1.37		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-69-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	108-05-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	SW8260B	04/07/2017 12:55	04/07/2017 12:55	2.66		0.20	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-7	SW8260B	04/07/2017 12:55	04/07/2017 12:55	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>01</i>	<i>104 %</i>	<i>70-120</i>	<i>04/07/2017 12:55</i>	<i>04/07/2017 12:55</i>							
<i>Surr: 4-Bromofluorobenzene</i>	<i>01</i>	<i>98.8 %</i>	<i>75-120</i>	<i>04/07/2017 12:55</i>	<i>04/07/2017 12:55</i>							
<i>Surr: Dibromofluoromethane</i>	<i>01</i>	<i>102 %</i>	<i>80-119</i>	<i>04/07/2017 12:55</i>	<i>04/07/2017 12:55</i>							
<i>Surr: Toluene-d8</i>	<i>01</i>	<i>99.6 %</i>	<i>85-120</i>	<i>04/07/2017 12:55</i>	<i>04/07/2017 12:55</i>							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
1,3,5-Trinitrobenzene	01	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	5.56	1	ug/L	SKS
1,3-Dinitrobenzene	01	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	01	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	01	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	01	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,4,5-Trichlorophenol	01	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dichlorophenol	01	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		0.56	0.56	1	ug/L	SKS
2,4-Dinitrophenol	01	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD	C	0.56	55.6	1	ug/L	SKS
2,4-Dinitrotoluene	01	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dichlorophenol	01	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dinitrotoluene	01	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2-Acetylaminofluorene	01	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	01	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	01	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	01	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	01	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	01	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
3,3'-Dichlorobenzidine	01	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylbenzidine	01	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD	C	2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	01	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	01	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	22.2	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	01	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	55.6	1	ug/L	SKS
4-Aminobiphenyl	01	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	01	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
4-Chloroaniline	01	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	01	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
4-Nitroaniline	01	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	22.2	1	ug/L	SKS
4-Nitrophenol	01	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	55.6	1	ug/L	SKS
5-Nitro-o-toluidine	01	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	01	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Acenaphthene	01	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Acenaphthylene	01	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Acetophenone	01	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	22.2	1	ug/L	SKS
Anthracene	01	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	01	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	01	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	01	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Benzyl alcohol	01	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	22.2	1	ug/L	SKS
bis (2-Chloroethoxy) methane	01	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Chloroethyl) ether	01	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	01	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	2.78	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	01	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Chlorobenzilate	01	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
Chrysene	01	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Diallate	01	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Dibenzofuran	01	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	5.56	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Dimethoate	01	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
Dimethyl phthalate	01	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Diphenylamine	01	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Disulfoton	01	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD	C	2.78	2.78	1	ug/L	SKS
Ethyl methanesulfonate	01	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	22.2	1	ug/L	SKS
Ethyl parathion	01	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
Famphur	01	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
Fluoranthene	01	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Fluorene	01	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		0.06	0.06	1	ug/L	SKS
Hexachlorobutadiene	01	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	01	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloroethane	01	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloropropene	01	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD	C	2.22	2.78	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	01	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Isophorone	01	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Isosafrole	01	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Kepon	01	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
m+p-Cresols	01	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Methapyrilene	01	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Methyl methanesulfonate	01	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Methyl parathion	01	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
Naphthalene	01	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Nitrobenzene	01	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosodiethylamine	01	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.78	2.78	1	ug/L	SKS
n-Nitrosodimethylamine	01	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-butylamine	01	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-propylamine	01	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodiphenylamine	01	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosomethylethylamine	01	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
n-Nitrosopiperidine	01	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosopyrrolidine	01	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	01	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	01	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
o+m+p-Cresols	01	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		3.33	11.1	1	ug/L	SKS
o-Cresol	01	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
o-Toluidine	01	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	01	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	2.78	1	ug/L	SKS
p-Chloro-m-cresol	01	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Pentachlorobenzene	01	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	01	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	1.11	1	ug/L	SKS
Phenacetin	01	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Phenanthrene	01	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Phenol	01	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Phorate	01	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
p-Phenylenediamine	01	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD	C	2.22	11.1	1	ug/L	SKS
Pronamide	01	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	11.1	1	ug/L	SKS
Pyrene	01	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		1.11	11.1	1	ug/L	SKS
Safrole	01	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 17:06	BLOD		2.22	2.78	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>01</i>	<i>53.9 %</i>	<i>20-86</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>01</i>	<i>43.0 %</i>	<i>23-87</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							
<i>Surr: 2-Fluorophenol</i>	<i>01</i>	<i>32.6 %</i>	<i>10-52</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>01</i>	<i>46.8 %</i>	<i>10-98.5</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							
<i>Surr: Phenol-d5</i>	<i>01</i>	<i>22.3 %</i>	<i>5-33</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>01</i>	<i>103 %</i>	<i>27-133</i>	<i>04/11/2017 08:59</i>	<i>04/12/2017 17:06</i>							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	01	12674-11-2	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.028	0.217	1	ug/L	LBH
PCB as Aroclor 1221	01	11104-28-2	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.217	0.217	1	ug/L	LBH
PCB as Aroclor 1232	01	11141-16-5	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.016	0.217	1	ug/L	LBH
PCB as Aroclor 1242	01	53469-21-9	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.045	0.217	1	ug/L	LBH
PCB as Aroclor 1248	01	12672-29-6	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.052	0.217	1	ug/L	LBH
PCB as Aroclor 1254	01	11097-69-1	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.038	0.217	1	ug/L	LBH
PCB as Aroclor 1260	01	11096-82-5	SW8082A	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.037	0.217	1	ug/L	LBH
<i>Surr: DCB</i>	<i>01</i>	<i>85.0 %</i>	<i>30-105</i>	<i>04/10/2017 09:27</i>	<i>04/17/2017 18:13</i>							
<i>Surr: TCMX</i>	<i>01</i>	<i>45.0 %</i>	<i>30-105</i>	<i>04/10/2017 09:27</i>	<i>04/17/2017 18:13</i>							
4,4'-DDD	01	72-54-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDE	01	72-55-9	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDT	01	50-29-3	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	01	309-00-2	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	01	319-84-6	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	01	319-85-7	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	01	57-74-9	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.217	0.217	1	ug/L	LBH
delta-BHC	01	319-86-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	01	60-57-1	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	01	959-98-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	01	33213-65-9	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	01	1031-07-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	01	72-20-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	01	7421-93-4	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	01	58-89-9	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.003	0.054	1	ug/L	LBH



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	01	1024-57-3	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	01	72-43-5	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.004	0.054	1	ug/L	LBH
Toxaphene	01	8001-35-2	SW8081B	04/10/2017 09:27	04/17/2017 18:13	BLOD		0.217	1.09	1	ug/L	LBH
Surr: TCMX	01	45.0 %	18-112	04/10/2017 09:27	04/17/2017 18:13							
Surr: DCB	01	85.0 %	27-131	04/10/2017 09:27	04/17/2017 18:13							



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Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 13:46	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	01	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 13:46	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	01	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 13:46	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	01	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 13:46	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	01	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 13:46	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	01	165 %	60-112	04/10/2017 14:09	04/14/2017 13:46							S



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Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 11:02	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	01	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 11:02	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 11:02	BLOD		0.003	0.010	1	ug/L	LBH



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Client Sample ID: MW-1B

Laboratory Sample ID: 17D0225-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/13/2017 14:54	04/13/2017 14:54	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	01	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	02	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:28	BLOD		1.0	5.0	1	ug/L	BG
Barium	02	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:19	266		2.0	10.0	1	ug/L	CWO
Beryllium	02	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	02	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	02	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:19	18.8		2.0	4.0	1	ug/L	CWO
Chromium	02	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		4.0	10.0	1	ug/L	CWO
Copper	02	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	02	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:22	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	02	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:19	74.8		2.0	10.0	1	ug/L	CWO
Lead	02	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	02	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:28	BLOD		1.00	5.00	1	ug/L	BG
Selenium	02	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:19	17.9	J	15.0	50.0	1	ug/L	CWO
Tin	02	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	02	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:28	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	02	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:19	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	02RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:22	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-55-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	02	79-00-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	02	75-34-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	5.55		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	02	563-58-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	02	96-18-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	02	120-82-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	95-50-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	1.16		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	02	107-06-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	02	78-87-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	02	541-73-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	02	142-28-9	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/07/2017 13:19	04/07/2017 13:19	13.6		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	02	594-20-7	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	02	78-93-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	02	591-78-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	02	67-64-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	02	75-05-8	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	02	107-02-8	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	02	107-13-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	02	107-05-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	02	71-43-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	1.51		0.20	1.00	1	ug/L	JDW
Bromochloromethane	02	74-97-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	02	75-27-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	02	75-25-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	02	74-83-9	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	02	75-15-0	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		1.00	10.0	1	ug/L	JDW



Certificate of Analysis

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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	02	108-90-7	SW8260B	04/07/2017 13:19	04/07/2017 13:19	11.3		0.10	1.00	1	ug/L	JDW
Chloroethane	02	75-00-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	0.94	J	0.20	1.00	1	ug/L	JDW
Chloroform	02	67-66-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	02	74-87-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	02	126-99-8	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	5.96		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	02	124-48-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	02	74-95-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	02	75-71-8	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	02	97-63-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	02	100-41-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	02	87-68-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	02	74-88-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	02	78-83-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	02	179601-23-1	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	02	126-98-7	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	02	80-62-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	02	75-09-2	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	02	95-47-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	02	107-12-0	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	02	100-42-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.10	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	0.38	J	0.20	1.00	1	ug/L	JDW
Toluene	02	108-88-3	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	02	79-01-6	SW8260B	04/07/2017 13:19	04/07/2017 13:19	1.98		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	02	75-69-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	02	108-05-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	02	75-01-4	SW8260B	04/07/2017 13:19	04/07/2017 13:19	0.87		0.20	0.50	1	ug/L	JDW
Xylenes, Total	02	1330-20-7	SW8260B	04/07/2017 13:19	04/07/2017 13:19	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	02	110 %	70-120	04/07/2017 13:19	04/07/2017 13:19							
<i>Surr: 4-Bromofluorobenzene</i>	02	96.9 %	75-120	04/07/2017 13:19	04/07/2017 13:19							
<i>Surr: Dibromofluoromethane</i>	02	103 %	80-119	04/07/2017 13:19	04/07/2017 13:19							
<i>Surr: Toluene-d8</i>	02	100 %	85-120	04/07/2017 13:19	04/07/2017 13:19							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
1,3,5-Trinitrobenzene	02	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	5.56	1	ug/L	SKS
1,3-Dinitrobenzene	02	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	02	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	02	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	02	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,4,5-Trichlorophenol	02	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	02	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dichlorophenol	02	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	02	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		0.56	0.56	1	ug/L	SKS
2,4-Dinitrophenol	02	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD	C	0.56	55.6	1	ug/L	SKS
2,4-Dinitrotoluene	02	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dichlorophenol	02	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dinitrotoluene	02	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2-Acetylaminofluorene	02	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	02	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	02	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	02	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	02	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	02	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
3,3'-Dichlorobenzidine	02	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylbenzidine	02	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD	C	2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	02	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	02	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	22.2	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	02	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	55.6	1	ug/L	SKS
4-Aminobiphenyl	02	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
4-Chloroaniline	02	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	02	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
4-Nitroaniline	02	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	22.2	1	ug/L	SKS
4-Nitrophenol	02	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	55.6	1	ug/L	SKS
5-Nitro-o-toluidine	02	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	02	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Acenaphthene	02	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Acenaphthylene	02	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Acetophenone	02	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	22.2	1	ug/L	SKS
Anthracene	02	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	02	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	02	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	02	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Benzyl alcohol	02	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	22.2	1	ug/L	SKS
bis (2-Chloroethoxy) methane	02	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Chloroethyl) ether	02	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	02	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	1.17	J	1.11	2.78	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Chlorobenzilate	02	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
Chrysene	02	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Diallate	02	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Dibenzofuran	02	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	5.56	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Dimethoate	02	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
Dimethyl phthalate	02	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Di-n-octyl phthalate	02	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Diphenylamine	02	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Disulfoton	02	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD	C	2.78	2.78	1	ug/L	SKS
Ethyl methanesulfonate	02	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	22.2	1	ug/L	SKS
Ethyl parathion	02	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
Famphur	02	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
Fluoranthene	02	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Fluorene	02	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	02	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		0.06	0.06	1	ug/L	SKS
Hexachlorobutadiene	02	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	02	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloroethane	02	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloropropene	02	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD	C	2.22	2.78	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	02	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Isophorone	02	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Isosafrole	02	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Kepon	02	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
m+p-Cresols	02	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Methapyrilene	02	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Methyl methanesulfonate	02	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Methyl parathion	02	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
Naphthalene	02	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Nitrobenzene	02	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosodiethylamine	02	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.78	2.78	1	ug/L	SKS
n-Nitrosodimethylamine	02	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-butylamine	02	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-propylamine	02	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodiphenylamine	02	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosomethylethylamine	02	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
n-Nitrosopiperidine	02	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosopyrrolidine	02	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	02	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	02	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
o+m+p-Cresols	02	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		3.33	11.1	1	ug/L	SKS
o-Cresol	02	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
o-Toluidine	02	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	02	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	2.78	1	ug/L	SKS
p-Chloro-m-cresol	02	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Pentachlorobenzene	02	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	02	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	1.11	1	ug/L	SKS
Phenacetin	02	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Phenanthrene	02	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Phenol	02	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Phorate	02	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
p-Phenylenediamine	02	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD	C	2.22	11.1	1	ug/L	SKS
Pronamide	02	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	11.1	1	ug/L	SKS
Pyrene	02	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		1.11	11.1	1	ug/L	SKS
Safrole	02	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 18:48	BLOD		2.22	2.78	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	02	51.7 %	20-86	04/11/2017 08:59	04/12/2017 18:48							
<i>Surr: 2-Fluorobiphenyl</i>	02	40.2 %	23-87	04/11/2017 08:59	04/12/2017 18:48							
<i>Surr: 2-Fluorophenol</i>	02	33.6 %	10-52	04/11/2017 08:59	04/12/2017 18:48							
<i>Surr: Nitrobenzene-d5</i>	02	45.4 %	10-98.5	04/11/2017 08:59	04/12/2017 18:48							
<i>Surr: Phenol-d5</i>	02	18.5 %	5-33	04/11/2017 08:59	04/12/2017 18:48							
<i>Surr: p-Terphenyl-d14</i>	02	66.5 %	27-133	04/11/2017 08:59	04/12/2017 18:48							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	02	12674-11-2	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.028	0.217	1	ug/L	SKS
PCB as Aroclor 1221	02	11104-28-2	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.217	0.217	1	ug/L	SKS
PCB as Aroclor 1232	02	11141-16-5	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.016	0.217	1	ug/L	SKS
PCB as Aroclor 1242	02	53469-21-9	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.045	0.217	1	ug/L	SKS
PCB as Aroclor 1248	02	12672-29-6	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.052	0.217	1	ug/L	SKS
PCB as Aroclor 1254	02	11097-69-1	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.038	0.217	1	ug/L	SKS
PCB as Aroclor 1260	02	11096-82-5	SW8082A	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.037	0.217	1	ug/L	SKS
Surr: DCB	02	75.0 %	30-105	04/11/2017 12:59	04/17/2017 15:44							
Surr: TCMX	02	120 %	30-105	04/11/2017 12:59	04/17/2017 15:44							S
4,4'-DDD	02	72-54-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDE	02	72-55-9	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDT	02	50-29-3	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	02	309-00-2	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	02	319-84-6	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	02	319-85-7	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	02	57-74-9	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.217	0.217	1	ug/L	LBH
delta-BHC	02	319-86-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	02	60-57-1	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	02	959-98-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	02	33213-65-9	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	02	1031-07-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	02	72-20-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	02	7421-93-4	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	02	58-89-9	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.003	0.054	1	ug/L	LBH



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	02	1024-57-3	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	02	72-43-5	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.004	0.054	1	ug/L	LBH
Toxaphene	02	8001-35-2	SW8081B	04/11/2017 12:59	04/17/2017 15:44	BLOD		0.217	1.09	1	ug/L	LBH
Surr: TCMX	02	110 %	18-112	04/11/2017 12:59	04/17/2017 15:44							
Surr: DCB	02	80.0 %	27-131	04/11/2017 12:59	04/17/2017 15:44							



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Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 14:53	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 14:53	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	02	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 14:53	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	02	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 14:53	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	02	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 14:53	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	02	210 %	60-112	04/10/2017 14:09	04/14/2017 14:53							S



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Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 11:59	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	02	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 11:59	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 11:59	BLOD		0.003	0.010	1	ug/L	LBH



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Client Sample ID: MW-2B

Laboratory Sample ID: 17D0225-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-5	SW9012B	04/13/2017 14:48	04/13/2017 14:48	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	02	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	03	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:28	2.1	J	2.0	10.0	1	ug/L	CWO
Arsenic	03	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:32	BLOD		1.0	5.0	1	ug/L	BG
Barium	03	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:28	152		2.0	10.0	1	ug/L	CWO
Beryllium	03	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	03	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	03	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		2.0	4.0	1	ug/L	CWO
Chromium	03	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		4.0	10.0	1	ug/L	CWO
Copper	03	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	03	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:24	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	03	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		2.0	10.0	1	ug/L	CWO
Lead	03	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	03	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:32	BLOD		1.00	5.00	1	ug/L	BG
Selenium	03	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		15.0	50.0	1	ug/L	CWO
Tin	03	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	03	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:32	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	03	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:28	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	03RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:24	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	03	71-55-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	03	79-00-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	03	75-34-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	03	75-35-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	03	563-58-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	03	96-18-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	03	120-82-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	03	95-50-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	03	107-06-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	03	78-87-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	03	541-73-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	03	142-28-9	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	03	106-46-7	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	03	594-20-7	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	03	78-93-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	03	591-78-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	03	67-64-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	03	75-05-8	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	03	107-02-8	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	03	107-13-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	03	107-05-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	03	71-43-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	03	74-97-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	03	75-27-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	03	75-25-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	03	74-83-9	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	03	75-15-0	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		1.00	10.0	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	03	56-23-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	03	108-90-7	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	03	75-00-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	03	67-66-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	03	74-87-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	03	126-99-8	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	03	124-48-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	03	74-95-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	03	75-71-8	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	03	97-63-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	03	100-41-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	03	87-68-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	03	74-88-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	03	78-83-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	03	179601-23-1	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	03	126-98-7	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	03	80-62-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	03	75-09-2	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	03	95-47-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	03	107-12-0	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	03	100-42-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.10	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	03	108-88-3	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	03	79-01-6	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	03	75-69-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	03	108-05-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	03	75-01-4	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	03	1330-20-7	SW8260B	04/07/2017 13:43	04/07/2017 13:43	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	03	105 %	70-120	04/07/2017 13:43	04/07/2017 13:43							
<i>Surr: 4-Bromofluorobenzene</i>	03	99.0 %	75-120	04/07/2017 13:43	04/07/2017 13:43							
<i>Surr: Dibromofluoromethane</i>	03	103 %	80-119	04/07/2017 13:43	04/07/2017 13:43							
<i>Surr: Toluene-d8</i>	03	98.8 %	85-120	04/07/2017 13:43	04/07/2017 13:43							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	03	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	03	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	03	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	03	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	03	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	03	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	03	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	03	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dichlorophenol	03	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	03	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	03	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD	C	0.54	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	03	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dichlorophenol	03	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	03	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2-Acetylaminofluorene	03	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	03	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	03	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	03	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	03	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	03	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	03	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	03	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	03	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD	C	2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	03	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	03	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	03	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	54.3	1	ug/L	SKS
4-Aminobiphenyl	03	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	03	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
4-Chloroaniline	03	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	03	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
4-Nitroaniline	03	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	03	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	03	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	03	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	03	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Acenaphthylene	03	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Acetophenone	03	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	03	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	03	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	03	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	03	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	03	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	03	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Benzyl alcohol	03	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	03	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	03	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	03	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	2.72	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	03	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Chlorobenzilate	03	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
Chrysene	03	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Diallate	03	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	03	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Dibenzofuran	03	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	03	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Dimethoate	03	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	03	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	03	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Di-n-octyl phthalate	03	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Diphenylamine	03	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	03	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD	C	2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	03	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	03	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	03	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
Fluoranthene	03	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Fluorene	03	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorobenzene	03	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	03	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	03	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloroethane	03	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloropropene	03	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD	C	2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	03	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Isophorone	03	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Isosafrole	03	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Kepon	03	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
m+p-Cresols	03	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	03	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	03	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	03	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	03	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Nitrobenzene	03	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	03	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	03	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	03	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	03	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	03	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	03	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	03	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	03	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	03	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	03	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	03	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	03	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
o-Toluidine	03	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	03	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	03	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Pentachlorobenzene	03	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	03	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	03	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	03	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Phenol	03	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Phorate	03	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	03	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD	C	2.17	10.9	1	ug/L	SKS
Pronamide	03	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	03	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		1.09	10.9	1	ug/L	SKS
Safrole	03	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 19:22	BLOD		2.17	2.72	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	03	49.6 %	20-86	04/11/2017 08:59	04/12/2017 19:22							
<i>Surr: 2-Fluorobiphenyl</i>	03	47.7 %	23-87	04/11/2017 08:59	04/12/2017 19:22							
<i>Surr: 2-Fluorophenol</i>	03	33.9 %	10-52	04/11/2017 08:59	04/12/2017 19:22							
<i>Surr: Nitrobenzene-d5</i>	03	51.7 %	10-98.5	04/11/2017 08:59	04/12/2017 19:22							
<i>Surr: Phenol-d5</i>	03	18.9 %	5-33	04/11/2017 08:59	04/12/2017 19:22							
<i>Surr: p-Terphenyl-d14</i>	03	79.4 %	27-133	04/11/2017 08:59	04/12/2017 19:22							



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	03	12674-11-2	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.028	0.215	1	ug/L	SKS
PCB as Aroclor 1221	03	11104-28-2	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.215	0.215	1	ug/L	SKS
PCB as Aroclor 1232	03	11141-16-5	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.016	0.215	1	ug/L	SKS
PCB as Aroclor 1242	03	53469-21-9	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.044	0.215	1	ug/L	SKS
PCB as Aroclor 1248	03	12672-29-6	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.052	0.215	1	ug/L	SKS
PCB as Aroclor 1254	03	11097-69-1	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.038	0.215	1	ug/L	SKS
PCB as Aroclor 1260	03	11096-82-5	SW8082A	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.037	0.215	1	ug/L	SKS
Surr: DCB	03	45.0 %	30-105	04/11/2017 12:59	04/17/2017 16:02							
Surr: TCMX	03	75.0 %	30-105	04/11/2017 12:59	04/17/2017 16:02							
4,4'-DDD	03	72-54-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDE	03	72-55-9	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDT	03	50-29-3	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	03	309-00-2	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	03	319-84-6	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	03	319-85-7	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	03	57-74-9	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.215	0.215	1	ug/L	LBH
delta-BHC	03	319-86-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	03	60-57-1	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	03	959-98-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	03	33213-65-9	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	03	1031-07-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	03	72-20-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	03	7421-93-4	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	03	58-89-9	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.003	0.054	1	ug/L	LBH



Certificate of Analysis

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Client Sample ID: MW-3A

Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	03	76-44-8	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	03	1024-57-3	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	03	72-43-5	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.004	0.054	1	ug/L	LBH
Toxaphene	03	8001-35-2	SW8081B	04/11/2017 12:59	04/17/2017 16:02	BLOD		0.215	1.08	1	ug/L	LBH
Surr: TCMX	03	65.0 %	18-112	04/11/2017 12:59	04/17/2017 16:02							
Surr: DCB	03	40.0 %	27-131	04/11/2017 12:59	04/17/2017 16:02							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	03	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 15:15	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	03	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 15:15	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	03	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 15:15	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	03	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 15:15	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	03	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 15:15	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA</i>	03		110 %	60-112	04/10/2017 14:09	04/14/2017 15:15						



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 12:19	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	03	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 12:19	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 12:19	BLOD		0.003	0.010	1	ug/L	LBH



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Laboratory Sample ID: 17D0225-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	03	57-12-5	SW9012B	04/13/2017 14:51	04/13/2017 14:51	BLOD		0.01	0.01	1	mg/L	BBP
Sulfide	03	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:29	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	04	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:44	BLOD		1.0	5.0	1	ug/L	BG
Barium	04	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:30	57.4		2.0	10.0	1	ug/L	CWO
Beryllium	04	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:29	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	04	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:30	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	04	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:30	13.4		2.0	4.0	1	ug/L	CWO
Chromium	04	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:30	BLOD		4.0	10.0	1	ug/L	CWO
Copper	04	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:29	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	04	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:27	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	04	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:30	7.5	J	2.0	10.0	1	ug/L	CWO
Lead	04	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:30	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	04	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:44	BLOD		1.00	5.00	1	ug/L	BG
Selenium	04	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:30	BLOD		15.0	50.0	1	ug/L	CWO
Tin	04	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:30	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	04	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:44	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	04	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:29	3.1	J	2.0	10.0	1	ug/L	CWO
Zinc	04RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:26	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	04	71-55-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	04	79-00-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	04	75-34-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	2.45		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	04	75-35-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

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Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	04	563-58-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	04	96-18-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	04	120-82-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	04	95-50-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.23	J	0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	04	107-06-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	04	78-87-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	04	541-73-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	142-28-9	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	04	106-46-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	7.98		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	04	594-20-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	04	78-93-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	04	591-78-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	04	67-64-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	04	75-05-8	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	04	107-02-8	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	04	107-13-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	04	107-05-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	04	71-43-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.80		0.20	1.00	1	ug/L	JDW
Bromochloromethane	04	74-97-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	04	75-27-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	04	75-25-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	04	74-83-9	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	04	75-15-0	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.00	10.0	1	ug/L	JDW



Certificate of Analysis

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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	04	56-23-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	04	108-90-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	3.92		0.10	1.00	1	ug/L	JDW
Chloroethane	04	75-00-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.19		0.20	1.00	1	ug/L	JDW
Chloroform	04	67-66-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	04	74-87-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	04	126-99-8	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	04	156-59-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	3.92		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	04	10061-01-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	04	124-48-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	04	74-95-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	04	75-71-8	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	04	97-63-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	04	100-41-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	04	87-68-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	04	74-88-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	04	78-83-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	04	179601-23-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.77	J	0.20	2.00	1	ug/L	JDW
Methacrylonitrile	04	126-98-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	04	80-62-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	04	75-09-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	04	95-47-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.19		0.10	1.00	1	ug/L	JDW
Propionitrile	04	107-12-0	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	04	100-42-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	1.00	1	ug/L	JDW



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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.35	J	0.20	1.00	1	ug/L	JDW
Toluene	04	108-88-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	04	156-60-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	04	10061-02-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	04	79-01-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.60	J	0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	04	75-69-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	04	108-05-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	04	75-01-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	04	1330-20-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.96	J	0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	04	107 %	70-120	04/07/2017 14:07	04/07/2017 14:07							
<i>Surr: 4-Bromofluorobenzene</i>	04	102 %	75-120	04/07/2017 14:07	04/07/2017 14:07							
<i>Surr: Dibromofluoromethane</i>	04	104 %	80-119	04/07/2017 14:07	04/07/2017 14:07							
<i>Surr: Toluene-d8</i>	04	97.6 %	85-120	04/07/2017 14:07	04/07/2017 14:07							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
1,3,5-Trinitrobenzene	04	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	5.56	1	ug/L	SKS
1,3-Dinitrobenzene	04	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	04	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	04	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	04	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,4,5-Trichlorophenol	04	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	04	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dichlorophenol	04	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	04	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		0.56	0.56	1	ug/L	SKS
2,4-Dinitrophenol	04	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD	C	0.56	55.6	1	ug/L	SKS
2,4-Dinitrotoluene	04	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dichlorophenol	04	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,6-Dinitrotoluene	04	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2-Acetylaminofluorene	04	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	04	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	04	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	04	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	04	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	04	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	04	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
3,3'-Dichlorobenzidine	04	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylbenzidine	04	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD	C	2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	04	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	04	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	22.2	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	04	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	55.6	1	ug/L	SKS
4-Aminobiphenyl	04	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	04	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
4-Chloroaniline	04	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	04	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
4-Nitroaniline	04	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	22.2	1	ug/L	SKS
4-Nitrophenol	04	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	55.6	1	ug/L	SKS
5-Nitro-o-toluidine	04	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	04	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Acenaphthene	04	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Acenaphthylene	04	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Acetophenone	04	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	22.2	1	ug/L	SKS
Anthracene	04	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	04	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	04	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	04	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	04	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	04	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Benzyl alcohol	04	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	22.2	1	ug/L	SKS
bis (2-Chloroethoxy) methane	04	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Chloroethyl) ether	04	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	04	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	2.78	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	04	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Chlorobenzilate	04	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
Chrysene	04	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Diallate	04	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
Dibenz (a,h) anthracene	04	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Dibenzofuran	04	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	5.56	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Dimethoate	04	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
Dimethyl phthalate	04	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Di-n-octyl phthalate	04	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Diphenylamine	04	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Disulfoton	04	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD	C	2.78	2.78	1	ug/L	SKS
Ethyl methanesulfonate	04	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	22.2	1	ug/L	SKS
Ethyl parathion	04	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
Famphur	04	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
Fluoranthene	04	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Fluorene	04	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	04	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		0.06	0.06	1	ug/L	SKS
Hexachlorobutadiene	04	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	04	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloroethane	04	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Hexachloropropene	04	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD	C	2.22	2.78	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	04	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Isophorone	04	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Isosafrole	04	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Kepon	04	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
m+p-Cresols	04	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Methapyrilene	04	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Methyl methanesulfonate	04	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Methyl parathion	04	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
Naphthalene	04	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Nitrobenzene	04	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosodiethylamine	04	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.78	2.78	1	ug/L	SKS
n-Nitrosodimethylamine	04	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-butylamine	04	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodi-n-propylamine	04	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosodiphenylamine	04	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
n-Nitrosomethylethylamine	04	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
n-Nitrosopiperidine	04	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
n-Nitrosopyrrolidine	04	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	04	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	04	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
o+m+p-Cresols	04	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		3.33	11.1	1	ug/L	SKS
o-Cresol	04	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
o-Toluidine	04	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	04	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	2.78	1	ug/L	SKS
p-Chloro-m-cresol	04	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Pentachlorobenzene	04	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	04	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	1.11	1	ug/L	SKS
Phenacetin	04	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Phenanthrene	04	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Phenol	04	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Phorate	04	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
p-Phenylenediamine	04	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD	C	2.22	11.1	1	ug/L	SKS
Pronamide	04	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	11.1	1	ug/L	SKS
Pyrene	04	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		1.11	11.1	1	ug/L	SKS
Safrole	04	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 19:56	BLOD		2.22	2.78	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	04	33.7 %	20-86	04/11/2017 08:59	04/12/2017 19:56							
<i>Surr: 2-Fluorobiphenyl</i>	04	32.9 %	23-87	04/11/2017 08:59	04/12/2017 19:56							
<i>Surr: 2-Fluorophenol</i>	04	25.7 %	10-52	04/11/2017 08:59	04/12/2017 19:56							
<i>Surr: Nitrobenzene-d5</i>	04	37.7 %	10-98.5	04/11/2017 08:59	04/12/2017 19:56							
<i>Surr: Phenol-d5</i>	04	14.2 %	5-33	04/11/2017 08:59	04/12/2017 19:56							
<i>Surr: p-Terphenyl-d14</i>	04	62.5 %	27-133	04/11/2017 08:59	04/12/2017 19:56							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	04	12674-11-2	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.028	0.217	1	ug/L	SKS
PCB as Aroclor 1221	04	11104-28-2	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.217	0.217	1	ug/L	SKS
PCB as Aroclor 1232	04	11141-16-5	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.016	0.217	1	ug/L	SKS
PCB as Aroclor 1242	04	53469-21-9	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.045	0.217	1	ug/L	SKS
PCB as Aroclor 1248	04	12672-29-6	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.052	0.217	1	ug/L	SKS
PCB as Aroclor 1254	04	11097-69-1	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.038	0.217	1	ug/L	SKS
PCB as Aroclor 1260	04	11096-82-5	SW8082A	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.037	0.217	1	ug/L	SKS
<i>Surr: DCB</i>	04	90.0 %	30-105	04/11/2017 12:59	04/17/2017 16:19							
<i>Surr: TCMX</i>	04	85.0 %	30-105	04/11/2017 12:59	04/17/2017 16:19							
4,4'-DDD	04	72-54-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDE	04	72-55-9	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDT	04	50-29-3	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	04	309-00-2	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	04	319-84-6	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	04	319-85-7	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	04	57-74-9	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.217	0.217	1	ug/L	LBH
delta-BHC	04	319-86-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	04	60-57-1	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	04	959-98-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	04	33213-65-9	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	04	1031-07-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	04	72-20-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	04	7421-93-4	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	04	58-89-9	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.003	0.054	1	ug/L	LBH



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Client Sample ID: MW-4

Laboratory Sample ID: 17D0225-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	04	76-44-8	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	04	1024-57-3	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	04	72-43-5	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.004	0.054	1	ug/L	LBH
Toxaphene	04	8001-35-2	SW8081B	04/11/2017 12:59	04/17/2017 16:19	BLOD		0.217	1.09	1	ug/L	LBH
Surr: TCMX	04	60.0 %	18-112	04/11/2017 12:59	04/17/2017 16:19							
Surr: DCB	04	65.0 %	27-131	04/11/2017 12:59	04/17/2017 16:19							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	04	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	04	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	04	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 15:37	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	04	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 15:37	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	04	115 %	60-112	04/10/2017 14:09	04/14/2017 15:37							S



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 12:38	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	04	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 12:38	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 12:38	BLOD		0.003	0.010	1	ug/L	LBH



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-5	SW9012B	04/13/2017 15:12	04/13/2017 15:12	BLOD	CI	0.01	0.01	1	mg/L	BBP
Sulfide	04	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:31	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	05	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:48	BLOD		1.0	5.0	1	ug/L	BG
Barium	05	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:32	12.2		2.0	10.0	1	ug/L	CWO
Beryllium	05	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	05	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	05	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		2.0	4.0	1	ug/L	CWO
Chromium	05	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		4.0	10.0	1	ug/L	CWO
Copper	05	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:31	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	05	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:29	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	05	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		2.0	10.0	1	ug/L	CWO
Lead	05	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	05	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:48	BLOD		1.00	5.00	1	ug/L	BG
Selenium	05	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		15.0	50.0	1	ug/L	CWO
Tin	05	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:32	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	05	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:48	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	05	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:31	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	05RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:27	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	05	71-55-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	05	79-00-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	75-34-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	05	75-35-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	05	563-58-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	05	96-18-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	05	120-82-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	05	95-50-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	05	107-06-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	05	78-87-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	05	541-73-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	142-28-9	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	05	106-46-7	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	05	594-20-7	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	05	78-93-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	05	591-78-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	05	67-64-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	05	75-05-8	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	05	107-02-8	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	05	107-13-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	05	107-05-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	05	71-43-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	05	74-97-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	05	75-27-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	05	75-25-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	05	74-83-9	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	05	75-15-0	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		1.00	10.0	1	ug/L	JDW



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	05	56-23-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	05	108-90-7	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	05	75-00-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	05	67-66-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	05	74-87-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	05	126-99-8	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	05	156-59-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	05	10061-01-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	05	124-48-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	05	74-95-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	05	75-71-8	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	05	97-63-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	05	100-41-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	05	87-68-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	05	74-88-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	05	78-83-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	05	179601-23-1	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	05	126-98-7	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	05	80-62-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	05	75-09-2	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	05	95-47-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	05	107-12-0	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	05	100-42-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.10	1.00	1	ug/L	JDW



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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	05	127-18-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	05	108-88-3	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	05	156-60-5	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	05	10061-02-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	05	79-01-6	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	05	75-69-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	05	108-05-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	05	75-01-4	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	05	1330-20-7	SW8260B	04/07/2017 14:31	04/07/2017 14:31	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	05	104 %	70-120	04/07/2017 14:31	04/07/2017 14:31							
<i>Surr: 4-Bromofluorobenzene</i>	05	97.7 %	75-120	04/07/2017 14:31	04/07/2017 14:31							
<i>Surr: Dibromofluoromethane</i>	05	99.9 %	80-119	04/07/2017 14:31	04/07/2017 14:31							
<i>Surr: Toluene-d8</i>	05	99.2 %	85-120	04/07/2017 14:31	04/07/2017 14:31							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	05	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
1,3,5-Trinitrobenzene	05	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	5.49	1	ug/L	SKS
1,3-Dinitrobenzene	05	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
1,4-Naphthoquinone	05	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
1-Naphthylamine	05	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	05	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,4,5-Trichlorophenol	05	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	05	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,4-Dichlorophenol	05	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,4-Dimethylphenol	05	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		0.55	0.55	1	ug/L	SKS
2,4-Dinitrophenol	05	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD	C	0.55	54.9	1	ug/L	SKS
2,4-Dinitrotoluene	05	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,6-Dichlorophenol	05	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,6-Dinitrotoluene	05	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2-Acetylaminofluorene	05	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
2-Chloronaphthalene	05	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2-Chlorophenol	05	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2-Methylnaphthalene	05	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
2-Naphthylamine	05	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
2-Nitroaniline	05	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	22.0	1	ug/L	SKS
2-Nitrophenol	05	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
3,3'-Dichlorobenzidine	05	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		4.40	11.0	1	ug/L	SKS
3,3'-Dimethylbenzidine	05	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD	C	2.75	2.75	1	ug/L	SKS
3-Methylcholanthrene	05	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	05	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	22.0	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	05	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	54.9	1	ug/L	SKS
4-Aminobiphenyl	05	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
4-Bromophenyl phenyl ether	05	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
4-Chloroaniline	05	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
4-Chlorophenyl phenyl ether	05	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
4-Nitroaniline	05	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	22.0	1	ug/L	SKS
4-Nitrophenol	05	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	54.9	1	ug/L	SKS
5-Nitro-o-toluidine	05	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	05	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Acenaphthene	05	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Acenaphthylene	05	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Acetophenone	05	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	22.0	1	ug/L	SKS
Anthracene	05	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (a) anthracene	05	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	05	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	05	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (g,h,i) perylene	05	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Benzo (k) fluoranthene	05	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Benzyl alcohol	05	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	22.0	1	ug/L	SKS
bis (2-Chloroethoxy) methane	05	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
bis (2-Chloroethyl) ether	05	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	05	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	2.75	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	05	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Chlorobenzilate	05	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
Chrysene	05	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Diallate	05	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
Dibenz (a,h) anthracene	05	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Dibenzofuran	05	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	5.49	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Dimethoate	05	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
Dimethyl phthalate	05	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Di-n-octyl phthalate	05	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Diphenylamine	05	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Disulfoton	05	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD	C	2.75	2.75	1	ug/L	SKS
Ethyl methanesulfonate	05	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	22.0	1	ug/L	SKS
Ethyl parathion	05	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
Famphur	05	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
Fluoranthene	05	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Fluorene	05	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Hexachlorobenzene	05	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	05	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Hexachlorocyclopentadiene	05	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Hexachloroethane	05	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Hexachloropropene	05	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD	C	2.20	2.75	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	05	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Isophorone	05	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Isosafrole	05	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Kepon	05	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
m+p-Cresols	05	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Methapyrilene	05	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Methyl methanesulfonate	05	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Methyl parathion	05	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
Naphthalene	05	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Nitrobenzene	05	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
n-Nitrosodiethylamine	05	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.75	2.75	1	ug/L	SKS
n-Nitrosodimethylamine	05	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodi-n-butylamine	05	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodi-n-propylamine	05	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosodiphenylamine	05	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
n-Nitrosomethylethylamine	05	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
n-Nitrosopiperidine	05	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
n-Nitrosopyrrolidine	05	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	05	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	05	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
o+m+p-Cresols	05	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		3.30	11.0	1	ug/L	SKS
o-Cresol	05	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
o-Toluidine	05	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS



Certificate of Analysis

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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	05	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	2.75	1	ug/L	SKS
p-Chloro-m-cresol	05	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Pentachlorobenzene	05	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	05	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	1.10	1	ug/L	SKS
Phenacetin	05	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Phenanthrene	05	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Phenol	05	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Phorate	05	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
p-Phenylenediamine	05	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD	C	2.20	11.0	1	ug/L	SKS
Pronamide	05	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	11.0	1	ug/L	SKS
Pyrene	05	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		1.10	11.0	1	ug/L	SKS
Safrole	05	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 20:31	BLOD		2.20	2.75	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol	05	43.6 %	20-86	04/11/2017 08:59	04/12/2017 20:31							
Surr: 2-Fluorobiphenyl	05	42.6 %	23-87	04/11/2017 08:59	04/12/2017 20:31							
Surr: 2-Fluorophenol	05	29.2 %	10-52	04/11/2017 08:59	04/12/2017 20:31							
Surr: Nitrobenzene-d5	05	46.2 %	10-98.5	04/11/2017 08:59	04/12/2017 20:31							
Surr: Phenol-d5	05	17.5 %	5-33	04/11/2017 08:59	04/12/2017 20:31							
Surr: p-Terphenyl-d14	05	103 %	27-133	04/11/2017 08:59	04/12/2017 20:31							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	05	12674-11-2	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.029	0.222	1	ug/L	SKS
PCB as Aroclor 1221	05	11104-28-2	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.222	0.222	1	ug/L	SKS
PCB as Aroclor 1232	05	11141-16-5	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.017	0.222	1	ug/L	SKS
PCB as Aroclor 1242	05	53469-21-9	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.046	0.222	1	ug/L	SKS
PCB as Aroclor 1248	05	12672-29-6	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.053	0.222	1	ug/L	SKS
PCB as Aroclor 1254	05	11097-69-1	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.039	0.222	1	ug/L	SKS
PCB as Aroclor 1260	05	11096-82-5	SW8082A	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.038	0.222	1	ug/L	SKS
<i>Surr: DCB</i>	<i>05</i>	<i>40.0 %</i>	<i>30-105</i>	<i>04/11/2017 12:59</i>	<i>04/17/2017 16:36</i>							
<i>Surr: TCMX</i>	<i>05</i>	<i>50.0 %</i>	<i>30-105</i>	<i>04/11/2017 12:59</i>	<i>04/17/2017 16:36</i>							
4,4'-DDD	05	72-54-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
4,4'-DDE	05	72-55-9	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
4,4'-DDT	05	50-29-3	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
Aldrin	05	309-00-2	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
alpha-BHC	05	319-84-6	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
beta-BHC	05	319-85-7	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.006	0.056	1	ug/L	LBH
Chlordane	05	57-74-9	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.222	0.222	1	ug/L	LBH
delta-BHC	05	319-86-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Dieldrin	05	60-57-1	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.003	0.056	1	ug/L	LBH
Endosulfan I	05	959-98-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Endosulfan II	05	33213-65-9	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Endosulfan sulfate	05	1031-07-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Endrin	05	72-20-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Endrin aldehyde	05	7421-93-4	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
gamma-BHC (Lindane)	05	58-89-9	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.003	0.056	1	ug/L	LBH



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	05	76-44-8	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.003	0.056	1	ug/L	LBH
Heptachlor epoxide	05	1024-57-3	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.002	0.056	1	ug/L	LBH
Methoxychlor	05	72-43-5	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.004	0.056	1	ug/L	LBH
Toxaphene	05	8001-35-2	SW8081B	04/11/2017 12:59	04/17/2017 16:36	BLOD		0.222	1.11	1	ug/L	LBH
Surr: TCMX	05	45.0 %	18-112	04/11/2017 12:59	04/17/2017 16:36							
Surr: DCB	05	40.0 %	27-131	04/11/2017 12:59	04/17/2017 16:36							



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Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 15:59	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	05	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 15:59	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	05	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 15:59	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	05	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 15:59	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	05	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 15:59	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA</i>	05	95.0 %	60-112	04/10/2017 14:09	04/14/2017 15:59							



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Client Sample ID: MW-20

Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 12:57	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	05	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 12:57	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 12:57	BLOD		0.003	0.010	1	ug/L	LBH



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Laboratory Sample ID: 17D0225-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	57-12-5	SW9012B	04/13/2017 15:21	04/13/2017 15:21	BLOD		0.01	0.01	1	mg/L	BBP
Sulfide	05	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Date Issued: 4/20/2017 2:50:16PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0169 - EPA200.2/R2.8

Blank (BAD0169-BLK1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Thallium	BLOD	2.00	ug/L							

LCS (BAD0169-BS1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	50.5	5.00	ug/L	50.0		101	80-120			
Arsenic	53	5.0	ug/L	50.0		105	80-120			
Thallium	51.8	2.00	ug/L	50.0		104	80-120			

LCS Dup (BAD0169-BSD1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	50.3	5.00	ug/L	50.0		101	80-120	0.311	20	
Arsenic	51	5.0	ug/L	50.0		101	80-120	3.67	20	
Thallium	53.7	2.00	ug/L	50.0		107	80-120	3.58	20	

Matrix Spike (BAD0169-MS1)

Source: 17D0225-01

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	52.9	5.00	ug/L	50.0	BLOD	106	75-125			
Arsenic	54	5.0	ug/L	50.0	BLOD	109	75-125			
Thallium	50.5	2.00	ug/L	50.0	BLOD	101	75-125			

Matrix Spike Dup (BAD0169-MSD1)

Source: 17D0225-01

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	53.8	5.00	ug/L	50.0	BLOD	108	75-125	1.69	20	
Arsenic	54	5.0	ug/L	50.0	BLOD	109	75-125	0.247	20	
Thallium	50.3	2.00	ug/L	50.0	BLOD	101	75-125	0.533	20	

Batch BAD0174 - EPA200.2/R2.8

Blank (BAD0174-BLK1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	BLOD	10.0	ug/L							
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Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Blank (BAD0174-BLK1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BAD0174-BS1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	530	10.0	ug/L	500	106	80-120
Beryllium	535	4.0	ug/L	500	107	80-120
Cadmium	539	4.0	ug/L	500	108	80-120
Chromium	533	10.0	ug/L	500	107	80-120
Cobalt	533	4.0	ug/L	500	107	80-120
Copper	524	10.0	ug/L	500	105	80-120
Lead	528	10.0	ug/L	500	106	80-120
Nickel	534.2	10.0	ug/L	500	107	80-120
Selenium	529	50.0	ug/L	500	106	80-120
Silver	105	10.0	ug/L	100	105	80-120
Tin	97.4	20.0	ug/L	100	97.4	80-120

E



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

LCS (BAD0174-BS1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Vanadium	526	10.0	ug/L	500		105	80-120			
Zinc	531	10.0	ug/L	500		106	80-120			

LCS Dup (BAD0174-BSD1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	512	10.0	ug/L	500		102	80-120	3.55	20	
Beryllium	517	4.0	ug/L	500		103	80-120	3.53	20	
Cadmium	518	4.0	ug/L	500		104	80-120	3.95	20	
Chromium	513	10.0	ug/L	500		103	80-120	3.80	20	
Cobalt	516	4.0	ug/L	500		103	80-120	3.27	20	
Copper	505	10.0	ug/L	500		101	80-120	3.66	20	
Lead	512	10.0	ug/L	500		102	80-120	3.03	20	
Nickel	515.7	10.0	ug/L	500		103	80-120	3.52	20	
Selenium	510	50.0	ug/L	500		102	80-120	3.66	20	
Silver	102	10.0	ug/L	100		102	80-120	2.99	20	E
Tin	94.6	20.0	ug/L	100		94.6	80-120	2.93	20	
Vanadium	505	10.0	ug/L	500		101	80-120	4.04	20	
Zinc	512	10.0	ug/L	500		102	80-120	3.57	20	

Matrix Spike (BAD0174-MS1)

Source: 17D0225-01

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	664	10.0	ug/L	500	153	102	75-125			
Beryllium	519	4.0	ug/L	500	BLOD	104	75-125			
Cadmium	513	4.0	ug/L	500	BLOD	103	75-125			
Chromium	511	10.0	ug/L	500	BLOD	102	75-125			
Cobalt	529	4.0	ug/L	500	12.1	103	75-125			
Copper	513	10.0	ug/L	500	BLOD	103	75-125			
Lead	508	10.0	ug/L	500	BLOD	102	75-125			



Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Matrix Spike (BAD0174-MS1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Nickel	518.0	10.0	ug/L	500	5.1	103	75-125			
Selenium	508	50.0	ug/L	500	BLOD	102	75-125			
Silver	102	10.0	ug/L	100	BLOD	102	75-125			E
Tin	93.1	20.0	ug/L	100	BLOD	93.1	75-125			
Vanadium	506	10.0	ug/L	500	BLOD	101	75-125			
Zinc	511	10.0	ug/L	500	BLOD	102	75-125			

Matrix Spike (BAD0174-MS2)		Source: 17D0228-03			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	586	10.0	ug/L	500	54.9	106	75-125			
Beryllium	547	4.0	ug/L	500	BLOD	109	75-125			
Cadmium	532	4.0	ug/L	500	BLOD	106	75-125			
Chromium	528	10.0	ug/L	500	BLOD	106	75-125			
Cobalt	536	4.0	ug/L	500	BLOD	107	75-125			
Copper	541	10.0	ug/L	500	BLOD	108	75-125			
Lead	527	10.0	ug/L	500	BLOD	105	75-125			
Nickel	529.2	10.0	ug/L	500	BLOD	106	75-125			
Selenium	557	50.0	ug/L	500	15.2	108	75-125			
Silver	106	10.0	ug/L	100	BLOD	106	75-125			E
Tin	88.4	20.0	ug/L	100	BLOD	88.4	75-125			
Vanadium	528	10.0	ug/L	500	2.5	105	75-125			
Zinc	527	10.0	ug/L	500	BLOD	105	75-125			

Matrix Spike Dup (BAD0174-MSD1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	671	10.0	ug/L	500	153	104	75-125	1.10	20	
Beryllium	528	4.0	ug/L	500	BLOD	106	75-125	1.80	20	
Cadmium	524	4.0	ug/L	500	BLOD	105	75-125	2.07	20	



Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Matrix Spike Dup (BAD0174-MSD1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Chromium	529	10.0	ug/L	500	BLOD	106	75-125	3.45	20	
Cobalt	547	4.0	ug/L	500	12.1	107	75-125	3.24	20	
Copper	523	10.0	ug/L	500	BLOD	105	75-125	2.06	20	
Lead	522	10.0	ug/L	500	BLOD	104	75-125	2.77	20	
Nickel	534.9	10.0	ug/L	500	5.1	106	75-125	3.21	20	
Selenium	540	50.0	ug/L	500	BLOD	108	75-125	6.19	20	
Silver	104	10.0	ug/L	100	BLOD	104	75-125	1.66	20	E
Tin	96.5	20.0	ug/L	100	BLOD	96.5	75-125	3.61	20	
Vanadium	516	10.0	ug/L	500	BLOD	103	75-125	2.12	20	
Zinc	528	10.0	ug/L	500	BLOD	106	75-125	3.21	20	

Matrix Spike Dup (BAD0174-MSD2)		Source: 17D0228-03			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	601	10.0	ug/L	500	54.9	109	75-125	2.60	20	
Beryllium	564	4.0	ug/L	500	BLOD	113	75-125	2.96	20	
Cadmium	548	4.0	ug/L	500	BLOD	110	75-125	2.99	20	
Chromium	547	10.0	ug/L	500	BLOD	109	75-125	3.39	20	
Cobalt	553	4.0	ug/L	500	BLOD	111	75-125	3.05	20	
Copper	559	10.0	ug/L	500	BLOD	112	75-125	3.22	20	
Lead	538	10.0	ug/L	500	BLOD	108	75-125	2.15	20	
Nickel	545.4	10.0	ug/L	500	BLOD	109	75-125	3.01	20	
Selenium	575	50.0	ug/L	500	15.2	112	75-125	3.21	20	
Silver	107	10.0	ug/L	100	BLOD	107	75-125	0.750	20	E
Tin	90.9	20.0	ug/L	100	BLOD	90.9	75-125	2.80	20	
Vanadium	543	10.0	ug/L	500	2.5	108	75-125	2.86	20	
Zinc	543	10.0	ug/L	500	BLOD	109	75-125	3.04	20	



Certificate of Analysis

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Date Issued: 4/20/2017 2:50:16PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0223 - SW7470A										
Blank (BAD0223-BLK1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	BLOD	0.20	ug/L							
LCS (BAD0223-BS1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.43	0.20	ug/L	2.50		97.1	80-120			
LCS Dup (BAD0223-BSD1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.47	0.20	ug/L	2.50		98.7	80-120	1.63	20	
Matrix Spike (BAD0223-MS1)				Source: 17D0225-01 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	1.04	0.20	ug/L	2.50	BLOD	41.5	80-120			M
Matrix Spike (BAD0223-MS2)				Source: 17D0228-03 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.32	0.20	ug/L	2.50	BLOD	92.7	80-120			
Matrix Spike Dup (BAD0223-MSD1)				Source: 17D0225-01 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	1.03	0.20	ug/L	2.50	BLOD	41.2	80-120	0.852	20	M
Matrix Spike Dup (BAD0223-MSD2)				Source: 17D0228-03 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.34	0.20	ug/L	2.50	BLOD	93.5	80-120	0.863	20	



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,1-Dichloropropene	BLOD	1.00	ug/L							
1,2,3-Trichloropropane	BLOD	1.00	ug/L							
1,2,4-Trichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,3-Dichlorobenzene	BLOD	1.00	ug/L							
1,3-Dichloropropane	BLOD	1.00	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2,2-Dichloropropane	BLOD	2.00	ug/L							
2-Butanone (MEK)	BLOD	5.00	ug/L							
2-Hexanone (MBK)	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acetonitrile	BLOD	10.0	ug/L							
Acrolein	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Allyl chloride	BLOD	1.00	ug/L							
Benzene	BLOD	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

Bromochloromethane	BLOD	1.00	ug/L
Bromodichloromethane	BLOD	0.50	ug/L
Bromoform	BLOD	1.00	ug/L
Bromomethane	BLOD	1.00	ug/L
Carbon disulfide	BLOD	10.0	ug/L
Carbon tetrachloride	BLOD	1.00	ug/L
Chlorobenzene	BLOD	1.00	ug/L
Chloroethane	BLOD	1.00	ug/L
Chloroform	BLOD	0.50	ug/L
Chloromethane	BLOD	1.00	ug/L
Chloroprene	BLOD	5.00	ug/L
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L
cis-1,3-Dichloropropene	BLOD	1.00	ug/L
Dibromochloromethane	BLOD	0.50	ug/L
Dibromomethane	BLOD	1.00	ug/L
Dichlorodifluoromethane	BLOD	1.00	ug/L
Ethyl methacrylate	BLOD	5.00	ug/L
Ethylbenzene	BLOD	1.00	ug/L
Hexachlorobutadiene	BLOD	0.80	ug/L
Iodomethane	BLOD	10.0	ug/L
Isobutyl Alcohol	BLOD	40.0	ug/L
m+p-Xylenes	BLOD	2.00	ug/L
Methacrylonitrile	BLOD	1.50	ug/L
Methyl methacrylate	BLOD	2.00	ug/L
Methylene chloride	BLOD	4.00	ug/L



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

o-Xylene	BLOD	1.00	ug/L							
Propionitrile	BLOD	40.0	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.4</i>		ug/L	<i>50.0</i>		<i>103</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.2</i>		ug/L	<i>50.0</i>		<i>98.4</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.6</i>		ug/L	<i>50.0</i>		<i>101</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>49.9</i>		ug/L	<i>50.0</i>		<i>99.8</i>	<i>85-120</i>			

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	50.0	0.4	ug/L	50.0		100	80-130			
1,1,1-Trichloroethane	46.6	1	ug/L	50.0		93.2	65-130			
1,1,2,2-Tetrachloroethane	52.1	0.4	ug/L	50.0		104	65-130			
1,1,2-Trichloroethane	52.3	1	ug/L	50.0		105	75-125			
1,1-Dichloroethane	50.9	1	ug/L	50.0		102	70-135			
1,1-Dichloroethylene	50.3	1	ug/L	50.0		101	70-130			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

1,1-Dichloropropene	47.5	1	ug/L	50.0		94.9	75-135			
1,2,3-Trichloropropane	51.2	1	ug/L	50.0		102	75-125			
1,2,4-Trichlorobenzene	51.5	1	ug/L	50.0		103	65-135			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0		100	70-120			
1,2-Dichloroethane	47.4	1	ug/L	50.0		94.9	70-130			
1,2-Dichloropropane	49.9	1	ug/L	50.0		99.8	75-125			
1,3-Dichlorobenzene	50.6	1	ug/L	50.0		101	75-125			
1,3-Dichloropropane	51.5	1	ug/L	50.0		103	75-125			
1,4-Dichlorobenzene	49.7	1	ug/L	50.0		99.4	75-125			
2,2-Dichloropropane	49.2	2	ug/L	50.0		98.3	70-135			
2-Butanone (MEK)	55.6	5	ug/L	50.0		111	30-150			
2-Hexanone (MBK)	53.9	5	ug/L	50.0		108	55-130			
4-Methyl-2-pentanone (MIBK)	53.3	5	ug/L	50.0		107	60-135			
Acetone	57.4	10	ug/L	50.0		115	40-140			
Acrylonitrile	295	5	ug/L	250		118	70-130			
Benzene	49.2	1	ug/L	50.0		98.5	80-120			
Bromochloromethane	50.7	1	ug/L	50.0		101	65-130			
Bromodichloromethane	50.9	0.5	ug/L	50.0		102	75-120			
Bromoform	52.2	1	ug/L	50.0		104	70-130			
Bromomethane	47.2	1	ug/L	50.0		94.4	30-145			
Carbon disulfide	70.0	10	ug/L	50.0		140	35-160			
Carbon tetrachloride	46.7	1	ug/L	50.0		93.5	65-140			
Chlorobenzene	49.4	1	ug/L	50.0		98.9	80-120			
Chloroethane	50.4	1	ug/L	50.0		101	60-135			
Chloroform	46.8	0.5	ug/L	50.0		93.7	65-135			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

Chloromethane	50.1	1	ug/L	50.0		100	40-125			
cis-1,2-Dichloroethylene	49.5	1	ug/L	50.0		99.1	70-125			
cis-1,3-Dichloropropene	45.9	1	ug/L	50.0		91.8	70-130			
Dibromochloromethane	50.1	0.5	ug/L	50.0		100	60-135			
Dibromomethane	50.0	1	ug/L	50.0		100	75-125			
Dichlorodifluoromethane	56.3	1	ug/L	50.0		113	30-155			
Ethylbenzene	51.0	1	ug/L	50.0		102	75-125			
Hexachlorobutadiene	46.6	0.8	ug/L	50.0		93.3	50-140			
m+p-Xylenes	103	2	ug/L	100		103	75-130			
Methylene chloride	52.0	4	ug/L	50.0		104	55-140			
o-Xylene	50.4	1	ug/L	50.0		101	80-120			
Styrene	53.9	1	ug/L	50.0		108	65-135			
Tetrachloroethylene (PCE)	60.9	1	ug/L	50.0		122	45-150			
Toluene	50.0	1	ug/L	50.0		100	75-120			
trans-1,2-Dichloroethylene	49.5	1	ug/L	50.0		99.0	60-140			
trans-1,3-Dichloropropene	50.6	1	ug/L	50.0		101	55-140			
Trichloroethylene	48.4	1	ug/L	50.0		96.7	70-125			
Trichlorofluoromethane	46.3	1	ug/L	50.0		92.5	60-145			
Vinyl chloride	49.3	0.5	ug/L	50.0		98.5	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>103</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.7</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>50.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>101</i>	<i>85-120</i>			

Matrix Spike (BAD0186-MS1)

Source: 17D0225-01

Prepared & Analyzed: 04/07/2017



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)

Source: 17D0225-01

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	47.7	0.4	ug/L	50.0	BLOD	95.4	80-130			
1,1,1-Trichloroethane	48.3	1	ug/L	50.0	BLOD	96.6	65-130			
1,1,2,2-Tetrachloroethane	49.8	0.4	ug/L	50.0	BLOD	99.6	65-130			
1,1,2-Trichloroethane	49.9	1	ug/L	50.0	BLOD	99.8	75-125			
1,1-Dichloroethane	59.0	1	ug/L	50.0	8.53	101	70-135			
1,1-Dichloroethylene	53.4	1	ug/L	50.0	BLOD	106	70-130			
1,1-Dichloropropene	50.0	1	ug/L	50.0	BLOD	100	75-135			
1,2,3-Trichloropropane	48.7	1	ug/L	50.0	BLOD	97.4	75-125			
1,2,4-Trichlorobenzene	48.0	1	ug/L	50.0	BLOD	95.9	65-135			
1,2-Dichlorobenzene	48.8	1	ug/L	50.0	0.26	97.0	70-120			
1,2-Dichloroethane	46.4	1	ug/L	50.0	0.46	91.8	70-130			
1,2-Dichloropropane	49.3	1	ug/L	50.0	0.66	97.3	75-125			
1,3-Dichlorobenzene	48.7	1	ug/L	50.0	BLOD	97.5	75-125			
1,3-Dichloropropane	49.1	1	ug/L	50.0	BLOD	98.1	75-125			
1,4-Dichlorobenzene	51.4	1	ug/L	50.0	4.08	94.7	75-125			
2,2-Dichloropropane	46.2	2	ug/L	50.0	BLOD	92.4	70-135			
2-Butanone (MEK)	47.0	5	ug/L	50.0	BLOD	93.9	30-150			
2-Hexanone (MBK)	47.7	5	ug/L	50.0	BLOD	95.4	55-130			
4-Methyl-2-pentanone (MIBK)	49.0	5	ug/L	50.0	BLOD	97.9	60-135			
Acetone	49.7	10	ug/L	50.0	BLOD	96.9	40-140			
Acrylonitrile	265	5	ug/L	250	BLOD	106	70-130			
Benzene	51.2	1	ug/L	50.0	1.70	99.0	80-120			
Bromochloromethane	48.7	1	ug/L	50.0	BLOD	97.5	65-130			
Bromodichloromethane	49.0	0.5	ug/L	50.0	BLOD	98.1	75-120			
Bromoform	48.4	1	ug/L	50.0	BLOD	96.7	70-130			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)	Source: 17D0225-01			Prepared & Analyzed: 04/07/2017						
Bromomethane	39.0	1	ug/L	50.0	BLOD	78.0	30-145			
Carbon disulfide	73.0	10	ug/L	50.0	BLOD	145	35-160			
Carbon tetrachloride	49.0	1	ug/L	50.0	BLOD	97.9	65-140			
Chlorobenzene	50.1	1	ug/L	50.0	2.43	95.4	80-120			
Chloroethane	55.4	1	ug/L	50.0	2.19	106	60-135			
Chloroform	46.3	0.5	ug/L	50.0	BLOD	92.5	65-135			
Chloromethane	50.9	1	ug/L	50.0	0.35	101	40-125			
cis-1,2-Dichloroethylene	59.3	1	ug/L	50.0	10.2	98.2	70-125			
cis-1,3-Dichloropropene	43.0	1	ug/L	50.0	BLOD	86.1	70-130			
Dibromochloromethane	48.4	0.5	ug/L	50.0	BLOD	96.8	60-135			
Dibromomethane	48.6	1	ug/L	50.0	BLOD	97.3	75-125			
Dichlorodifluoromethane	59.3	1	ug/L	50.0	BLOD	119	30-155			
Ethylbenzene	51.8	1	ug/L	50.0	BLOD	104	75-125			
Hexachlorobutadiene	47.1	0.8	ug/L	50.0	BLOD	94.2	50-140			
m+p-Xylenes	100	2	ug/L	100	BLOD	100	75-130			
Methylene chloride	52.3	4	ug/L	50.0	BLOD	105	55-140			
o-Xylene	48.2	1	ug/L	50.0	BLOD	96.4	80-120			
Styrene	51.7	1	ug/L	50.0	BLOD	103	65-135			
Tetrachloroethylene (PCE)	61.5	1	ug/L	50.0	0.23	122	45-150			
Toluene	50.0	1	ug/L	50.0	BLOD	100	75-120			
trans-1,2-Dichloroethylene	51.1	1	ug/L	50.0	0.33	102	60-140			
trans-1,3-Dichloropropene	48.2	1	ug/L	50.0	BLOD	96.4	55-140			
Trichloroethylene	49.3	1	ug/L	50.0	1.37	95.8	70-125			
Trichlorofluoromethane	49.7	1	ug/L	50.0	BLOD	99.4	60-145			
Vinyl chloride	55.7	0.5	ug/L	50.0	2.66	106	50-145			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
<i>Surr: 1,2-Dichloroethane-d4</i>	53.3		ug/L	50.0		107	70-120			
<i>Surr: 4-Bromofluorobenzene</i>	48.7		ug/L	50.0		97.3	75-120			
<i>Surr: Dibromofluoromethane</i>	50.6		ug/L	50.0		101	80-119			
<i>Surr: Toluene-d8</i>	49.9		ug/L	50.0		99.7	85-120			

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
1,1,1,2-Tetrachloroethane	49.7	0.4	ug/L	50.0	BLOD	99.4	80-130	4.13	30	
1,1,1-Trichloroethane	49.0	1	ug/L	50.0	BLOD	97.9	65-130	1.31	30	
1,1,2,2-Tetrachloroethane	51.5	0.4	ug/L	50.0	BLOD	103	65-130	3.40	30	
1,1,2-Trichloroethane	50.4	1	ug/L	50.0	BLOD	101	75-125	1.08	30	
1,1-Dichloroethane	59.6	1	ug/L	50.0	8.53	102	70-135	1.01	30	
1,1-Dichloroethylene	54.7	1	ug/L	50.0	BLOD	109	70-130	2.41	30	
1,1-Dichloropropene	50.9	1	ug/L	50.0	BLOD	102	75-135	1.74	30	
1,2,3-Trichloropropane	50.5	1	ug/L	50.0	BLOD	101	75-125	3.56	30	
1,2,4-Trichlorobenzene	52.9	1	ug/L	50.0	BLOD	106	65-135	9.73	30	
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	0.26	99.2	70-120	2.27	30	
1,2-Dichloroethane	46.6	1	ug/L	50.0	0.46	92.2	70-130	0.394	30	
1,2-Dichloropropane	49.9	1	ug/L	50.0	0.66	98.4	75-125	1.12	30	
1,3-Dichlorobenzene	49.8	1	ug/L	50.0	BLOD	99.6	75-125	2.21	30	
1,3-Dichloropropane	49.8	1	ug/L	50.0	BLOD	99.6	75-125	1.47	30	
1,4-Dichlorobenzene	53.1	1	ug/L	50.0	4.08	98.0	75-125	3.17	30	
2,2-Dichloropropane	46.1	2	ug/L	50.0	BLOD	92.2	70-135	0.258	30	
2-Butanone (MEK)	47.3	5	ug/L	50.0	BLOD	94.5	30-150	0.628	30	
2-Hexanone (MBK)	53.3	5	ug/L	50.0	BLOD	107	55-130	11.1	30	
4-Methyl-2-pentanone (MIBK)	50.5	5	ug/L	50.0	BLOD	101	60-135	3.06	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01			Prepared & Analyzed: 04/07/2017						
Acetone	50.8	10	ug/L	50.0	BLOD	99.0	40-140	2.10	30	
Acrylonitrile	261	5	ug/L	250	BLOD	104	70-130	1.69	30	
Benzene	52.1	1	ug/L	50.0	1.70	101	80-120	1.68	30	
Bromochloromethane	48.8	1	ug/L	50.0	BLOD	97.5	65-130	0.0944	30	
Bromodichloromethane	49.0	0.5	ug/L	50.0	BLOD	98.0	75-120	0.0796	30	
Bromoform	49.2	1	ug/L	50.0	BLOD	98.4	70-130	1.70	30	
Bromomethane	46.5	1	ug/L	50.0	BLOD	93.0	30-145	17.6	30	
Carbon disulfide	75.2	10	ug/L	50.0	BLOD	149	35-160	2.94	30	
Carbon tetrachloride	50.6	1	ug/L	50.0	BLOD	101	65-140	3.27	30	
Chlorobenzene	52.4	1	ug/L	50.0	2.43	100	80-120	4.43	30	
Chloroethane	55.8	1	ug/L	50.0	2.19	107	60-135	0.854	30	
Chloroform	47.2	0.5	ug/L	50.0	BLOD	94.4	65-135	1.94	30	
Chloromethane	54.0	1	ug/L	50.0	0.35	107	40-125	5.90	30	
cis-1,2-Dichloroethylene	59.8	1	ug/L	50.0	10.2	99.3	70-125	0.904	30	
cis-1,3-Dichloropropene	44.3	1	ug/L	50.0	BLOD	88.7	70-130	2.96	30	
Dibromochloromethane	48.6	0.5	ug/L	50.0	BLOD	97.3	60-135	0.497	30	
Dibromomethane	48.5	1	ug/L	50.0	BLOD	97.0	75-125	0.266	30	
Dichlorodifluoromethane	49.9	1	ug/L	50.0	BLOD	99.8	30-155	17.2	30	
Ethylbenzene	52.7	1	ug/L	50.0	BLOD	105	75-125	1.67	30	
Hexachlorobutadiene	56.0	0.8	ug/L	50.0	BLOD	112	50-140	17.2	30	
m+p-Xylenes	105	2	ug/L	100	BLOD	105	75-130	4.09	30	
Methylene chloride	52.3	4	ug/L	50.0	BLOD	105	55-140	0.0535	30	
o-Xylene	50.5	1	ug/L	50.0	BLOD	101	80-120	4.71	30	
Styrene	53.8	1	ug/L	50.0	BLOD	108	65-135	3.85	30	
Tetrachloroethylene (PCE)	63.6	1	ug/L	50.0	0.23	127	45-150	3.47	30	



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
Toluene	50.5	1	ug/L	50.0	BLOD	101	75-120	0.965	30	
trans-1,2-Dichloroethylene	52.6	1	ug/L	50.0	0.33	104	60-140	2.84	30	
trans-1,3-Dichloropropene	48.7	1	ug/L	50.0	BLOD	97.4	55-140	1.08	30	
Trichloroethylene	50.7	1	ug/L	50.0	1.37	98.8	70-125	2.99	30	
Trichlorofluoromethane	50.0	1	ug/L	50.0	BLOD	100	60-145	0.628	30	
Vinyl chloride	56.9	0.5	ug/L	50.0	2.66	109	50-145	2.24	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.5</i>		<i>ug/L</i>	<i>50.0</i>		<i>105</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.4</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>49.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.7</i>	<i>85-120</i>			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4,5-Tetrachlorobenzene	BLOD	10.0	ug/L							
1,3,5-Trinitrobenzene	BLOD	5.00	ug/L							
1,3-Dinitrobenzene	BLOD	2.50	ug/L							
1,4-Naphthoquinone	BLOD	10.0	ug/L							
1-Naphthylamine	BLOD	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	BLOD	10.0	ug/L							
2,4,5-Trichlorophenol	BLOD	10.0	ug/L							
2,4,6-Trichlorophenol	BLOD	10.0	ug/L							
2,4-Dichlorophenol	BLOD	10.0	ug/L							
2,4-Dimethylphenol	BLOD	0.50	ug/L							
2,4-Dinitrophenol	BLOD	50.0	ug/L							
2,4-Dinitrotoluene	BLOD	10.0	ug/L							
2,6-Dichlorophenol	BLOD	10.0	ug/L							
2,6-Dinitrotoluene	BLOD	10.0	ug/L							
2-Acetylaminofluorene	BLOD	2.50	ug/L							
2-Chloronaphthalene	BLOD	10.0	ug/L							
2-Chlorophenol	BLOD	10.0	ug/L							
2-Methylnaphthalene	BLOD	10.0	ug/L							
2-Naphthylamine	BLOD	10.0	ug/L							
2-Nitroaniline	BLOD	20.0	ug/L							
2-Nitrophenol	BLOD	10.0	ug/L							
3,3'-Dichlorobenzidine	BLOD	10.0	ug/L							
3,3'-Dimethylbenzidine	BLOD	2.50	ug/L							
3-Methylcholanthrene	BLOD	10.0	ug/L							
3-Nitroaniline	BLOD	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

4,6-Dinitro-2-methylphenol	BLOD	50.0	ug/L							
4-Aminobiphenyl	BLOD	10.0	ug/L							
4-Bromophenyl phenyl ether	BLOD	10.0	ug/L							
4-Chloroaniline	BLOD	10.0	ug/L							
4-Chlorophenyl phenyl ether	BLOD	10.0	ug/L							
4-Nitroaniline	BLOD	20.0	ug/L							
4-Nitrophenol	BLOD	50.0	ug/L							
5-Nitro-o-toluidine	BLOD	10.0	ug/L							
7,12-Dimethylbenz (a) anthracene	BLOD	10.0	ug/L							
Acenaphthene	BLOD	10.0	ug/L							
Acenaphthylene	BLOD	10.0	ug/L							
Acetophenone	BLOD	20.0	ug/L							
Anthracene	BLOD	10.0	ug/L							
Benzo (a) anthracene	BLOD	0.05	ug/L							
Benzo (a) pyrene	BLOD	0.10	ug/L							
Benzo (b) fluoranthene	BLOD	10.0	ug/L							
Benzo (g,h,i) perylene	BLOD	10.0	ug/L							
Benzo (k) fluoranthene	BLOD	10.0	ug/L							
Benzyl alcohol	BLOD	20.0	ug/L							
bis (2-Chloroethoxy) methane	BLOD	10.0	ug/L							
bis (2-Chloroethyl) ether	BLOD	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Butyl benzyl phthalate	BLOD	10.0	ug/L							
Chlorobenzilate	BLOD	2.50	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Chrysene	BLOD	10.0	ug/L
Diallate	BLOD	2.50	ug/L
Dibenz (a,h) anthracene	BLOD	10.0	ug/L
Dibenzofuran	BLOD	5.00	ug/L
Diethyl phthalate	BLOD	10.0	ug/L
Dimethoate	BLOD	2.50	ug/L
Dimethyl phthalate	BLOD	10.0	ug/L
Di-n-butyl phthalate	BLOD	10.0	ug/L
Di-n-octyl phthalate	BLOD	10.0	ug/L
Diphenylamine	BLOD	10.0	ug/L
Disulfoton	BLOD	2.50	ug/L
Ethyl methanesulfonate	BLOD	20.0	ug/L
Ethyl parathion	BLOD	2.50	ug/L
Famphur	BLOD	2.50	ug/L
Fluoranthene	BLOD	10.0	ug/L
Fluorene	BLOD	10.0	ug/L
Hexachlorobenzene	BLOD	0.05	ug/L
Hexachlorobutadiene	BLOD	10.0	ug/L
Hexachlorocyclopentadiene	BLOD	10.0	ug/L
Hexachloroethane	BLOD	10.0	ug/L
Hexachloropropene	BLOD	2.50	ug/L
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L
Isodrin	BLOD	10.0	ug/L
Isophorone	BLOD	10.0	ug/L
Isosafrole	BLOD	10.0	ug/L



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Kepone	BLOD	2.50	ug/L							
m+p-Cresols	BLOD	10.0	ug/L							
Methapyrilene	BLOD	10.0	ug/L							
Methyl methanesulfonate	BLOD	10.0	ug/L							
Methyl parathion	BLOD	2.50	ug/L							
Naphthalene	BLOD	10.0	ug/L							
Nitrobenzene	BLOD	10.0	ug/L							
n-Nitrosodiethylamine	BLOD	2.50	ug/L							
n-Nitrosodimethylamine	BLOD	10.0	ug/L							
n-Nitrosodi-n-butylamine	BLOD	10.0	ug/L							
n-Nitrosodi-n-propylamine	BLOD	10.0	ug/L							
n-Nitrosodiphenylamine	BLOD	10.0	ug/L							
n-Nitrosomethylethylamine	BLOD	2.50	ug/L							
n-Nitrosopiperidine	BLOD	10.0	ug/L							
n-Nitrosopyrrolidine	BLOD	2.50	ug/L							
o,o,o-Triethyl phosphorothioate	BLOD	10.0	ug/L							
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.0	ug/L							
o+m+p-Cresols	BLOD	10.0	ug/L							
o-Cresol	BLOD	10.0	ug/L							
o-Toluidine	BLOD	2.50	ug/L							
p-(Dimethylamino) azobenzene	BLOD	2.50	ug/L							
p-Chloro-m-cresol	BLOD	10.0	ug/L							
Pentachlorobenzene	BLOD	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	BLOD	1.00	ug/L							
Phenacetin	BLOD	10.0	ug/L							



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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phorate	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
<i>Surr: 2,4,6-Tribromophenol</i>	63.2		ug/L	100		63.2	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	32.9		ug/L	50.0		65.8	23-87			
<i>Surr: 2-Fluorophenol</i>	46.5		ug/L	100		46.5	10-52			
<i>Surr: Nitrobenzene-d5</i>	35.1		ug/L	50.0		70.2	10-98.5			
<i>Surr: Phenol-d5</i>	26.0		ug/L	100		26.0	5-33			
<i>Surr: p-Terphenyl-d14</i>	50.0		ug/L	50.0		99.9	27-133			

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4-Trichlorobenzene	43.6	10.0	ug/L	100		43.6	21.8-66.7			
1,2-Dichlorobenzene	45.2	10.0	ug/L	100		45.2	22-60			
1,3-Dichlorobenzene	45.7	10.0	ug/L	100		45.7	22-60			
1,4-Dichlorobenzene	43.8	10.0	ug/L	100		43.8	13-68			
1-Chloronaphthalene	53.8	10.0	ug/L				0-200			
2,4,6-Trichlorophenol	50.8	10.0	ug/L	100		50.8	50-115			
2,4-Dichlorophenol	46.4	10.0	ug/L	100		46.4	50-105			L
2,4-Dimethylphenol	46.6	0.50	ug/L	100		46.6	30-110			
2,4-Dinitrophenol	51.2	50.0	ug/L	100		51.2	15-140			
2,4-Dinitrotoluene	59.9	10.0	ug/L	100		59.9	21-99			



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

2,6-Dinitrotoluene	56.2	10.0	ug/L	100		56.2	15-140			
2-Chloronaphthalene	46.4	10.0	ug/L	100		46.4	45-105			
2-Chlorophenol	48.3	10.0	ug/L	100		48.3	15-74			
2-Nitrophenol	48.7	10.0	ug/L	100		48.7	40-115			
3,3'-Dichlorobenzidine	102	10.0	ug/L	100		102	20-110			
4,6-Dinitro-2-methylphenol	57.7	50.0	ug/L	100		57.7	40-130			
4-Bromophenyl phenyl ether	59.1	10.0	ug/L	100		59.1	15-110			
4-Chlorophenyl phenyl ether	54.6	10.0	ug/L	100		54.6	15-110			
4-Nitrophenol	8.78	50.0	ug/L	100		8.78	0-125			
Acenaphthene	51.2	10.0	ug/L	100		51.2	27.7-85.5			
Acenaphthylene	50.8	10.0	ug/L	100		50.8	50-105			
Acetophenone	39.5	20.0	ug/L	100		39.5	0-200			
alpha-Terpineol	50.7	2.50	ug/L	100		50.7	0-200			
Anthracene	68.7	10.0	ug/L	100		68.7	55-110			
Benzo (a) anthracene	65.5	0.05	ug/L	100		65.5	55-110			
Benzo (a) pyrene	64.7	0.10	ug/L	100		64.7	55-110			
Benzo (b) fluoranthene	68.6	10.0	ug/L	100		68.6	45-120			
Benzo (g,h,i) perylene	63.8	10.0	ug/L	100		63.8	40-125			
Benzo (k) fluoranthene	78.5	10.0	ug/L	100		78.5	45-125			
bis (2-Chloroethoxy) methane	45.8	10.0	ug/L	100		45.8	40-125			
bis (2-Chloroethyl) ether	50.7	10.0	ug/L	100		50.7	40-125			
2,2'-Oxybis (1-chloropropane)	47.0	10.0	ug/L	100		47.0	40-125			
bis (2-Ethylhexyl) phthalate	80.6	2.50	ug/L	100		80.6	40-125			
Butyl benzyl phthalate	77.1	10.0	ug/L	100		77.1	45-115			
Carbazole	69.5	2.50	ug/L	100		69.5	0-200			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Chrysene	72.3	10.0	ug/L	100		72.3	55-110			
Dibenz (a,h) anthracene	67.6	10.0	ug/L	100		67.6	40-125			
Diethyl phthalate	57.7	10.0	ug/L	100		57.7	40-120			
Dimethyl phthalate	51.5	10.0	ug/L	100		51.5	25-125			
Di-n-butyl phthalate	63.7	10.0	ug/L	100		63.7	55-115			
Di-n-octyl phthalate	95.7	10.0	ug/L	100		95.7	35-135			
Fluoranthene	65.0	10.0	ug/L	100		65.0	55-115			
Fluorene	57.2	10.0	ug/L	100		57.2	50-110			
Hexachlorobenzene	59.8	0.05	ug/L	100		59.8	25-125			
Hexachlorobutadiene	48.5	10.0	ug/L	100		48.5	25-125			
Hexachlorocyclopentadiene	42.0	10.0	ug/L	100		42.0	25-125			
Hexachloroethane	43.4	10.0	ug/L	100		43.4	25-125			
Indeno (1,2,3-cd) pyrene	66.2	10.0	ug/L	100		66.2	45-125			
Isophorone	52.3	10.0	ug/L	100		52.3	10-110			
Naphthalene	49.8	10.0	ug/L	100		49.8	40-100			
Nitrobenzene	50.8	10.0	ug/L	100		50.8	40-100			
n-Nitrosodimethylamine	21.2	10.0	ug/L	100		21.2	25-110			L
n-Nitrosodi-n-propylamine	53.0	10.0	ug/L	100		53.0	12-97			
n-Nitrosodiphenylamine	49.3	10.0	ug/L	100		49.3	12-97			
p-Chloro-m-cresol	50.8	10.0	ug/L	100		50.8	10-91			
Pentachlorophenol	51.8	20.0	ug/L	100		51.8	30-109			
Phenanthrene	64.4	10.0	ug/L	100		64.4	50-115			
Phenol	14.4	10.0	ug/L	101		14.3	0-115			
Pyrene	74.8	10.0	ug/L	100		74.8	27-110			
Pyridine	24.3	10.0	ug/L	100		24.3	0-200			



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

<i>Surr: 2,4,6-Tribromophenol</i>	54.5		ug/L	100		54.5	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	22.3		ug/L	50.0		44.6	23-87			
<i>Surr: 2-Fluorophenol</i>	23.0		ug/L	100		23.0	10-52			
<i>Surr: Nitrobenzene-d5</i>	25.6		ug/L	50.0		51.1	10-98.5			
<i>Surr: Phenol-d5</i>	17.3		ug/L	100		17.3	5-33			
<i>Surr: p-Terphenyl-d14</i>	34.6		ug/L	50.0		69.2	27-133			

Matrix Spike (BAD0224-MS1)

Source: 17D0225-01

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4-Trichlorobenzene	83.8	11.1	ug/L	111	BLOD	75.4	21.8-66.7			M
1,2-Dichlorobenzene	84.8	11.1	ug/L	111	BLOD	76.3	22-60			M
1,3-Dichlorobenzene	91.2	11.1	ug/L	111	BLOD	82.1	22-60			M
1,4-Dichlorobenzene	87.4	11.1	ug/L	111	BLOD	78.7	22-60			M
1-Chloronaphthalene	108	11.1	ug/L		BLOD		0-200			
2,4,6-Trichlorophenol	100	11.1	ug/L	111	BLOD	90.2	50-115			
2,4-Dichlorophenol	93.4	11.1	ug/L	111	BLOD	84.0	50-105			
2,4-Dimethylphenol	84.0	0.56	ug/L	111	BLOD	75.6	30-110			
2,4-Dinitrophenol	90.3	55.6	ug/L	111	BLOD	81.2	15-140			
2,4-Dinitrotoluene	93.8	11.1	ug/L	111	BLOD	84.4	17-111			
2,6-Dinitrotoluene	90.2	11.1	ug/L	111	BLOD	81.2	15-140			
2-Chloronaphthalene	92.4	11.1	ug/L	111	BLOD	83.1	45-105			
2-Chlorophenol	87.8	11.1	ug/L	111	BLOD	79.1	19-64			M
2-Nitrophenol	91.5	11.1	ug/L	111	BLOD	82.4	40-115			
3,3'-Dichlorobenzidine	120	11.1	ug/L	111	BLOD	108	20-110			
4,6-Dinitro-2-methylphenol	95.9	55.6	ug/L	111	BLOD	86.3	40-130			
4-Bromophenyl phenyl ether	98.0	11.1	ug/L	111	BLOD	88.2	15-110			



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike (BAD0224-MS1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
4-Chlorophenyl phenyl ether	94.9	11.1	ug/L	111	BLOD	85.4	15-110			
4-Nitrophenol	BLOD	55.6	ug/L	111	BLOD		0-125			
Acenaphthene	95.8	11.1	ug/L	111	BLOD	86.2	24-90			
Acenaphthylene	95.9	11.1	ug/L	111	BLOD	86.3	50-105			
Acetophenone	68.3	22.2	ug/L	111	BLOD	61.5	0-200			
alpha-Terpineol	95.8	2.78	ug/L	111	BLOD	86.2	0-200			
Anthracene	110	11.1	ug/L	111	BLOD	99.2	55-110			
Benzo (a) anthracene	103	0.06	ug/L	111	BLOD	92.5	55-110			
Benzo (a) pyrene	111	0.11	ug/L	111	BLOD	100	55-110			
Benzo (b) fluoranthene	127	11.1	ug/L	111	BLOD	115	45-120			
Benzo (g,h,i) perylene	99.0	11.1	ug/L	111	BLOD	89.1	40-125			
Benzo (k) fluoranthene	131	11.1	ug/L	111	BLOD	118	45-125			
bis (2-Chloroethoxy) methane	86.9	11.1	ug/L	111	BLOD	78.2	40-125			
bis (2-Chloroethyl) ether	89.9	11.1	ug/L	111	BLOD	80.9	40-125			
2,2'-Oxybis (1-chloropropane)	86.6	11.1	ug/L	111	BLOD	78.0	40-125			
bis (2-Ethylhexyl) phthalate	129	2.78	ug/L	111	BLOD	116	40-125			
Butyl benzyl phthalate	120	11.1	ug/L	111	BLOD	108	45-115			
Carbazole	113	2.78	ug/L	111	BLOD	101	0-200			
Chrysene	114	11.1	ug/L	111	BLOD	102	55-110			
Dibenz (a,h) anthracene	110	11.1	ug/L	111	BLOD	98.8	40-125			
Diethyl phthalate	96.7	11.1	ug/L	111	BLOD	87.0	40-120			
Dimethyl phthalate	85.9	11.1	ug/L	111	BLOD	77.3	25-125			
Di-n-butyl phthalate	103	11.1	ug/L	111	BLOD	92.6	55-115			
Di-n-octyl phthalate	172	11.1	ug/L	111	BLOD	154	35-135			
Fluoranthene	104	11.1	ug/L	111	BLOD	94.0	55-115			M



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike (BAD0224-MS1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
Fluorene	99.1	11.1	ug/L	111	BLOD	89.2	50-110			
Hexachlorobenzene	94.7	0.06	ug/L	111	BLOD	85.3	25-125			
Hexachlorobutadiene	100	11.1	ug/L	111	BLOD	90.3	25-125			
Hexachlorocyclopentadiene	68.1	11.1	ug/L	111	BLOD	61.3	25-125			
Hexachloroethane	85.8	11.1	ug/L	111	BLOD	77.2	25-125			
Indeno (1,2,3-cd) pyrene	107	11.1	ug/L	111	BLOD	96.0	45-125			
Isophorone	98.4	11.1	ug/L	111	BLOD	88.5	10-110			
Naphthalene	94.4	11.1	ug/L	111	BLOD	84.9	40-100			
Nitrobenzene	90.3	11.1	ug/L	111	BLOD	81.3	40-100			
n-Nitrosodimethylamine	44.5	11.1	ug/L	111	BLOD	40.0	25-110			
n-Nitrosodi-n-propylamine	98.8	11.1	ug/L	111	BLOD	88.9	12-97			
n-Nitrosodiphenylamine	76.3	11.1	ug/L	111	BLOD	68.7	12-97			
p-Chloro-m-cresol	93.4	11.1	ug/L	111	BLOD	84.1	10-91			
Pentachlorophenol	116	22.2	ug/L	111	BLOD	104	27-109			
Phenanthrene	105	11.1	ug/L	111	BLOD	94.2	50-115			
Phenol	39.2	11.1	ug/L	112	BLOD	34.9	0-115			
Pyrene	116	11.1	ug/L	111	BLOD	104	23-110			
Pyridine	36.4	11.1	ug/L	111	BLOD	32.8	0-200			
<hr/>										
<i>Surr: 2,4,6-Tribromophenol</i>	92.4		ug/L	111		83.2	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	42.4		ug/L	55.6		76.3	23-87			
<i>Surr: 2-Fluorophenol</i>	46.2		ug/L	111		41.6	10-52			
<i>Surr: Nitrobenzene-d5</i>	44.2		ug/L	55.6		79.5	10-98.5			
<i>Surr: Phenol-d5</i>	38.5		ug/L	111		34.7	5-33			S
<i>Surr: p-Terphenyl-d14</i>	56.1		ug/L	55.6		101	27-133			



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
1,2,4-Trichlorobenzene	49.0	11.1	ug/L	111	BLOD	44.1	21.8-66.7	52.3	20	P
1,2-Dichlorobenzene	52.1	11.1	ug/L	111	BLOD	46.9	22-60	47.7	20	P
1,3-Dichlorobenzene	56.1	11.1	ug/L	111	BLOD	50.5	22-60	47.6	20	P
1,4-Dichlorobenzene	53.8	11.1	ug/L	111	BLOD	48.4	22-60	47.7	20	P
1-Chloronaphthalene	59.6	11.1	ug/L		BLOD		0-200	58.0	20	P
2,4,6-Trichlorophenol	58.4	11.1	ug/L	111	BLOD	52.6	50-115	52.8	20	P
2,4-Dichlorophenol	50.8	11.1	ug/L	111	BLOD	45.8	50-105	59.0	20	M, P
2,4-Dimethylphenol	48.6	0.56	ug/L	111	BLOD	43.7	30-110	53.5	20	P
2,4-Dinitrophenol	61.5	55.6	ug/L	111	BLOD	55.3	15-140	38.0	20	P
2,4-Dinitrotoluene	68.4	11.1	ug/L	111	BLOD	61.6	17-111	31.3	20	P
2,6-Dinitrotoluene	61.2	11.1	ug/L	111	BLOD	55.1	15-140	38.4	20	P
2-Chloronaphthalene	51.3	11.1	ug/L	111	BLOD	46.2	45-105	57.1	20	P
2-Chlorophenol	55.3	11.1	ug/L	111	BLOD	49.7	19-64	45.5	20	P
2-Nitrophenol	53.7	11.1	ug/L	111	BLOD	48.3	40-115	52.2	20	P
3,3'-Dichlorobenzidine	88.1	11.1	ug/L	111	BLOD	79.3	20-110	31.1	20	P
4,6-Dinitro-2-methylphenol	67.1	55.6	ug/L	111	BLOD	60.4	40-130	35.4	20	P
4-Bromophenyl phenyl ether	66.0	11.1	ug/L	111	BLOD	59.4	15-110	38.9	20	P
4-Chlorophenyl phenyl ether	59.3	11.1	ug/L	111	BLOD	53.4	15-110	46.1	20	P
4-Nitrophenol	21.2	55.6	ug/L	111	BLOD	19.0	0-125		20	
Acenaphthene	54.5	11.1	ug/L	111	BLOD	49.0	24-90	55.0	20	P
Acenaphthylene	54.4	11.1	ug/L	111	BLOD	49.0	50-105	55.1	20	M, P
Acetophenone	43.9	22.2	ug/L	111	BLOD	39.5	0-200	43.5	20	P
alpha-Terpineol	55.2	2.78	ug/L	111	BLOD	49.7	0-200	53.7	20	P
Anthracene	79.2	11.1	ug/L	111	BLOD	71.3	55-110	32.7	20	P
Benzo (a) anthracene	75.1	0.06	ug/L	111	BLOD	67.6	55-110	31.1	20	P



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
Benzo (a) pyrene	75.0	0.11	ug/L	111	BLOD	67.5	55-110	38.8	20	P
Benzo (b) fluoranthene	89.3	11.1	ug/L	111	BLOD	80.4	45-120	35.0	20	P
Benzo (g,h,i) perylene	66.8	11.1	ug/L	111	BLOD	60.2	40-125	38.8	20	P
Benzo (k) fluoranthene	84.7	11.1	ug/L	111	BLOD	76.2	45-125	42.8	20	P
bis (2-Chloroethoxy) methane	49.8	11.1	ug/L	111	BLOD	44.9	40-125	54.2	20	P
bis (2-Chloroethyl) ether	56.0	11.1	ug/L	111	BLOD	50.4	40-125	46.6	20	P
2,2'-Oxybis (1-chloropropane)	53.2	11.1	ug/L	111	BLOD	47.9	40-125	47.8	20	P
bis (2-Ethylhexyl) phthalate	94.6	2.78	ug/L	111	BLOD	85.2	40-125	30.5	20	P
Butyl benzyl phthalate	90.7	11.1	ug/L	111	BLOD	81.7	45-115	28.0	20	P
Carbazole	80.5	2.78	ug/L	111	BLOD	72.5	0-200	33.1	20	P
Chrysene	81.6	11.1	ug/L	111	BLOD	73.4	55-110	32.7	20	P
Dibenz (a,h) anthracene	71.3	11.1	ug/L	111	BLOD	64.2	40-125	42.4	20	P
Diethyl phthalate	66.9	11.1	ug/L	111	BLOD	60.2	40-120	36.4	20	P
Dimethyl phthalate	56.6	11.1	ug/L	111	BLOD	51.0	25-125	41.0	20	P
Di-n-butyl phthalate	72.5	11.1	ug/L	111	BLOD	65.2	55-115	34.6	20	P
Di-n-octyl phthalate	121	11.1	ug/L	111	BLOD	109	35-135	34.2	20	P
Fluoranthene	74.3	11.1	ug/L	111	BLOD	66.9	55-115	33.7	20	P
Fluorene	63.3	11.1	ug/L	111	BLOD	56.9	50-110	44.2	20	P
Hexachlorobenzene	68.1	0.06	ug/L	111	BLOD	61.3	25-125	32.8	20	P
Hexachlorobutadiene	56.0	11.1	ug/L	111	BLOD	50.4	25-125	56.7	20	P
Hexachlorocyclopentadiene	39.7	11.1	ug/L	111	BLOD	35.7	25-125	52.8	20	P
Hexachloroethane	51.3	11.1	ug/L	111	BLOD	46.2	25-125	50.3	20	P
Indeno (1,2,3-cd) pyrene	70.7	11.1	ug/L	111	BLOD	63.6	45-125	40.6	20	P
Isophorone	55.4	11.1	ug/L	111	BLOD	49.9	10-110	55.8	20	P
Naphthalene	57.4	11.1	ug/L	111	BLOD	51.7	40-100	48.7	20	P



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
Nitrobenzene	57.3	11.1	ug/L	111	BLOD	51.6	40-100	44.7	20	P
n-Nitrosodimethylamine	27.3	11.1	ug/L	111	BLOD	24.6	25-110	47.8	20	P
n-Nitrosodi-n-propylamine	61.2	11.1	ug/L	111	BLOD	55.1	12-97	47.0	20	P
n-Nitrosodiphenylamine	54.9	11.1	ug/L	111	BLOD	49.4	12-97	32.6	20	P
p-Chloro-m-cresol	59.8	11.1	ug/L	111	BLOD	53.8	10-91	43.9	20	P
Pentachlorophenol	81.6	22.2	ug/L	111	BLOD	73.4	27-109	34.8	20	P
Phenanthrene	74.9	11.1	ug/L	111	BLOD	67.4	50-115	33.1	20	P
Phenol	20.4	11.1	ug/L	112	BLOD	18.2	0-115	63.0	20	P
Pyrene	90.9	11.1	ug/L	111	BLOD	81.9	23-110	23.9	20	P
Pyridine	25.3	11.1	ug/L	111	BLOD	22.8	0-200	36.1	20	P
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<i>Surr: 2,4,6-Tribromophenol</i>	66.1		ug/L	111		59.5	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	24.0		ug/L	55.6		43.2	23-87			
<i>Surr: 2-Fluorophenol</i>	26.0		ug/L	111		23.4	10-52			
<i>Surr: Nitrobenzene-d5</i>	28.4		ug/L	55.6		51.1	10-98.5			
<i>Surr: Phenol-d5</i>	23.9		ug/L	111		21.5	5-33			
<i>Surr: p-Terphenyl-d14</i>	42.1		ug/L	55.6		75.7	27-133			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0190 - SW3510C

Blank (BAD0190-BLK1)

Prepared: 04/10/2017 Analyzed: 04/17/2017

4,4'-DDD	BLOD	0.050	ug/L							
PCB as Aroclor 1016	BLOD	0.200	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							
PCB as Aroclor 1242	BLOD	0.200	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							
4,4'-DDT	BLOD	0.050	ug/L							
PCB as Aroclor 1254	BLOD	0.200	ug/L							
PCB as Aroclor 1260	BLOD	0.200	ug/L							
Aldrin	BLOD	0.050	ug/L							
alpha-BHC	BLOD	0.050	ug/L							
beta-BHC	BLOD	0.050	ug/L							
Chlordane	BLOD	0.200	ug/L							
delta-BHC	BLOD	0.050	ug/L							
Dieldrin	BLOD	0.050	ug/L							
Endosulfan I	BLOD	0.050	ug/L							
Endosulfan II	BLOD	0.050	ug/L							
Endosulfan sulfate	BLOD	0.050	ug/L							
Endrin	BLOD	0.050	ug/L							
Endrin aldehyde	BLOD	0.050	ug/L							
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Heptachlor	BLOD	0.050	ug/L							
Heptachlor epoxide	BLOD	0.050	ug/L							
Methoxychlor	BLOD	0.050	ug/L							



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Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0190 - SW3510C										
Blank (BAD0190-BLK1)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Toxaphene	BLOD	1.00	ug/L							
Surr: DCB	0.0900		ug/L	0.200		45.0	30-105			
Surr: TCMX	0.100		ug/L	0.200		50.0	30-105			
Surr: TCMX	0.100		ug/L	0.200		50.0	18-112			
Surr: DCB	0.0900		ug/L	0.200		45.0	27-131			
LCS (BAD0190-BS1)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
4,4'-DDD	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDE	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDT	0.080	0.050	ug/L	0.100		80.0	23-134			
Aldrin	0.060	0.050	ug/L	0.100		60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
delta-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
Dieldrin	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.060	0.050	ug/L	0.100		60.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Endrin	0.090	0.050	ug/L	0.100		90.0	23-134			
Endrin aldehyde	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.080	0.050	ug/L	0.100		80.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.070	0.050	ug/L	0.100		70.0	23-134			
Methoxychlor	0.090	0.050	ug/L	0.100		90.0	23-134			
Mirex	0.070	0.050	ug/L	0.100		70.0	23-134			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0190 - SW3510C										
LCS (BAD0190-BS1)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.140		ug/L	0.200		70.0	27-131			
LCS (BAD0190-BS2)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
PCB as Aroclor 1016	0.730	0.200	ug/L	1.00		73.0	40-90			
PCB as Aroclor 1260	0.710	0.200	ug/L	1.00		71.0	40-90			
Surr: DCB	0.100		ug/L	0.200		50.0	30-105			
Surr: TCMX	0.100		ug/L	0.200		50.0	30-105			
LCS (BAD0190-BS3)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Toxaphene	1.35	1.00	ug/L	2.50		54.0	23-134			
LCS (BAD0190-BS4)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Chlordane	1.43	0.200	ug/L	2.50		57.2	23-134			
Matrix Spike (BAD0190-MS1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
4,4'-DDD	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
4,4'-DDE	0.133	0.056	ug/L	0.111	BLOD	120	23-134			
4,4'-DDT	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
Aldrin	0.056	0.056	ug/L	0.111	BLOD	50.0	23-134			
alpha-BHC	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
beta-BHC	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
delta-BHC	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
Dieldrin	0.111	0.056	ug/L	0.111	BLOD	100	23-134			
Endosulfan I	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
Endosulfan II	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
Endosulfan sulfate	0.122	0.056	ug/L	0.111	BLOD	110	23-134			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0190 - SW3510C										
Matrix Spike (BAD0190-MS1)										
			Source: 17D0225-01		Prepared: 04/10/2017 Analyzed: 04/17/2017					
Endrin	0.122	0.056	ug/L	0.111	BLOD	110	23-134			
Endrin aldehyde	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
gamma-BHC (Lindane)	0.133	0.056	ug/L	0.111	BLOD	120	23-134			
Heptachlor	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
Heptachlor epoxide	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
Methoxychlor	0.122	0.056	ug/L	0.111	BLOD	110	23-134			
Mirex	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
<i>Surr: TCMX</i>	<i>0.111</i>		ug/L	<i>0.222</i>		<i>50.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.244</i>		ug/L	<i>0.222</i>		<i>110</i>	<i>27-131</i>			
Matrix Spike (BAD0190-MS2)										
			Source: 17D0225-01		Prepared: 04/10/2017 Analyzed: 04/17/2017					
PCB as Aroclor 1016	5.46	0.208	ug/L	1.04	BLOD	524	40-120			M
PCB as Aroclor 1260	1.01	0.208	ug/L	1.04	BLOD	97.0	40-120			
<i>Surr: DCB</i>	<i>0.167</i>		ug/L	<i>0.208</i>		<i>80.0</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.135</i>		ug/L	<i>0.208</i>		<i>65.0</i>	<i>30-105</i>			
Matrix Spike Dup (BAD0190-MSD1)										
			Source: 17D0225-01		Prepared: 04/10/2017 Analyzed: 04/17/2017					
4,4'-DDD	0.106	0.053	ug/L	0.106	BLOD	100	23-134	6.19	20	
4,4'-DDE	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
4,4'-DDT	0.117	0.053	ug/L	0.106	BLOD	110	23-134	15.7	20	
Aldrin	0.085	0.053	ug/L	0.106	BLOD	80.0	23-134	42.0	20	P
alpha-BHC	0.106	0.053	ug/L	0.106	BLOD	100	23-134	17.9	20	
beta-BHC	0.181	0.053	ug/L	0.106	BLOD	170	23-134	57.6	20	M, P
delta-BHC	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	20.7	20	P
Dieldrin	0.128	0.053	ug/L	0.106	BLOD	120	23-134	13.9	20	
Endosulfan I	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	7.43	20	



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0190 - SW3510C

Matrix Spike Dup (BAD0190-MSD1)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
Endosulfan II	0.106	0.053	ug/L	0.106	BLOD	100	23-134	6.19	20	
Endosulfan sulfate	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Endrin	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Endrin aldehyde	0.106	0.053	ug/L	0.106	BLOD	100	23-134	17.9	20	
gamma-BHC (Lindane)	0.160	0.053	ug/L	0.106	BLOD	150	23-134	17.9	20	M
Heptachlor	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	20.7	20	P
Heptachlor epoxide	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	7.43	20	
Methoxychlor	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Mirex	0.074	0.053	ug/L	0.106	BLOD	70.0	23-134	4.35	20	
<i>Surr: TCMX</i>	<i>0.138</i>		ug/L	<i>0.213</i>		<i>65.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.266</i>		ug/L	<i>0.213</i>		<i>125</i>	<i>27-131</i>			

Matrix Spike Dup (BAD0190-MSD2)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
PCB as Aroclor 1016	6.51	0.222	ug/L	1.11	BLOD	586	40-120	17.6	20	M
PCB as Aroclor 1260	1.48	0.222	ug/L	1.11	BLOD	133	40-120	37.6	20	M, P
<i>Surr: DCB</i>	<i>0.222</i>		ug/L	<i>0.222</i>		<i>100</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.122</i>		ug/L	<i>0.222</i>		<i>55.0</i>	<i>30-105</i>			

Batch BAD0236 - SW3510C

Blank (BAD0236-BLK1)		Prepared: 04/11/2017 Analyzed: 04/17/2017								
PCB as Aroclor 1016	BLOD	0.200	ug/L							
4,4'-DDD	BLOD	0.050	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							



Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0236 - SW3510C

Blank (BAD0236-BLK1)

Prepared: 04/11/2017 Analyzed: 04/17/2017

PCB as Aroclor 1242	BLOD	0.200	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							
4,4'-DDT	BLOD	0.050	ug/L							
PCB as Aroclor 1254	BLOD	0.200	ug/L							
PCB as Aroclor 1260	BLOD	0.200	ug/L							
Aldrin	BLOD	0.050	ug/L							
alpha-BHC	BLOD	0.050	ug/L							
beta-BHC	BLOD	0.050	ug/L							
Chlordane	BLOD	0.200	ug/L							
delta-BHC	BLOD	0.050	ug/L							
Dieldrin	BLOD	0.050	ug/L							
Endosulfan I	BLOD	0.050	ug/L							
Endosulfan II	BLOD	0.050	ug/L							
Endosulfan sulfate	BLOD	0.050	ug/L							
Endrin	BLOD	0.050	ug/L							
Endrin aldehyde	BLOD	0.050	ug/L							
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Heptachlor	BLOD	0.050	ug/L							
Heptachlor epoxide	BLOD	0.050	ug/L							
Methoxychlor	BLOD	0.050	ug/L							
Toxaphene	BLOD	1.00	ug/L							
<hr/>										
Surr: DCB	0.200		ug/L	0.200		100	30-105			
Surr: TCMX	0.130		ug/L	0.200		65.0	30-105			
Surr: TCMX	0.130		ug/L	0.200		65.0	18-112			
Surr: DCB	0.220		ug/L	0.200		110	27-131			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0236 - SW3510C										
Blank (BAD0236-BLK1)				Prepared: 04/11/2017 Analyzed: 04/17/2017						
LCS (BAD0236-BS1)				Prepared: 04/11/2017 Analyzed: 04/17/2017						
4,4'-DDD	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDE	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDT	0.090	0.050	ug/L	0.100		90.0	23-134			
Aldrin	0.050	0.050	ug/L	0.100		50.0	23-134			
alpha-BHC	0.060	0.050	ug/L	0.100		60.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
delta-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
Dieldrin	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan II	0.080	0.050	ug/L	0.100		80.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Endrin	0.090	0.050	ug/L	0.100		90.0	23-134			
Endrin aldehyde	0.070	0.050	ug/L	0.100		70.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.060	0.050	ug/L	0.100		60.0	23-134			
Heptachlor epoxide	0.070	0.050	ug/L	0.100		70.0	23-134			
Methoxychlor	0.100	0.050	ug/L	0.100		100	23-134			
Mirex	0.060	0.050	ug/L	0.100		60.0	23-134			
<i>Surr: TCMX</i>	<i>0.120</i>		ug/L	<i>0.200</i>		<i>60.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.200</i>		ug/L	<i>0.200</i>		<i>100</i>	<i>27-131</i>			
LCS (BAD0236-BS2)				Prepared: 04/11/2017 Analyzed: 04/17/2017						
PCB as Aroclor 1016	0.840	0.200	ug/L	1.00		84.0	40-90			
PCB as Aroclor 1260	0.890	0.200	ug/L	1.00		89.0	40-90			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0236 - SW3510C										
LCS (BAD0236-BS2)										
				Prepared: 04/11/2017 Analyzed: 04/17/2017						
<i>Surr: DCB</i>	0.180		ug/L	0.200		90.0	30-105			
<i>Surr: TCMX</i>	0.170		ug/L	0.200		85.0	30-105			
LCS (BAD0236-BS3)										
				Prepared: 04/11/2017 Analyzed: 04/17/2017						
Toxaphene	1.60	1.00	ug/L	2.50		64.0	23-134			
<i>Surr: TCMX</i>	0.120		ug/L	0.200		60.0	18-112			
<i>Surr: DCB</i>	0.110		ug/L	0.200		55.0	27-131			
LCS (BAD0236-BS4)										
				Prepared: 04/11/2017 Analyzed: 04/17/2017						
Chlordane	1.62	0.200	ug/L	2.50		64.8	23-134			
<i>Surr: TCMX</i>	0.120		ug/L	0.200		60.0	18-112			
<i>Surr: DCB</i>	0.120		ug/L	0.200		60.0	27-131			
Matrix Spike (BAD0236-MS1)										
		Source: 17D0228-03			Prepared: 04/11/2017 Analyzed: 04/17/2017					
4,4'-DDD	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
4,4'-DDE	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
4,4'-DDT	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Aldrin	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
alpha-BHC	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
beta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Dieldrin	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Endosulfan I	0.050	0.050	ug/L	0.100	BLOD	50.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan sulfate	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endrin	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			



Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0236 - SW3510C

Matrix Spike (BAD0236-MS1)	Source: 17D0228-03			Prepared: 04/11/2017 Analyzed: 04/17/2017						
Endrin aldehyde	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
gamma-BHC (Lindane)	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Heptachlor	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Heptachlor epoxide	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Methoxychlor	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
Mirex	0.050	0.050	ug/L	0.100	BLOD	50.0	23-134			
<i>Surr: TCMX</i>	<i>0.110</i>		ug/L	<i>0.200</i>		<i>55.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.200</i>		ug/L	<i>0.200</i>		<i>100</i>	<i>27-131</i>			

Matrix Spike Dup (BAD0236-MSD1)	Source: 17D0228-03			Prepared: 04/11/2017 Analyzed: 04/17/2017						
4,4'-DDD	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134	13.3	20	
4,4'-DDE	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134	0.00	20	
4,4'-DDT	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134	0.00	20	
Aldrin	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134	0.00	20	
alpha-BHC	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	0.00	20	
beta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134	0.00	20	
delta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134	0.00	20	
Dieldrin	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	0.00	20	
Endosulfan I	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	18.2	20	
Endosulfan II	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134	0.00	20	
Endosulfan sulfate	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	15.4	20	
Endrin	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134	0.00	20	
Endrin aldehyde	0.050	0.050	ug/L	0.100	BLOD	50.0	23-134	18.2	20	
gamma-BHC (Lindane)	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	0.00	20	
Heptachlor	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134	0.00	20	



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0236 - SW3510C

Matrix Spike Dup (BAD0236-MSD1)	Source: 17D0228-03		Prepared: 04/11/2017 Analyzed: 04/17/2017							
Heptachlor epoxide	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134	15.4	20	
Methoxychlor	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134	11.8	20	
Mirex	0.050	0.050	ug/L	0.100	BLOD	50.0	23-134	0.00	20	
Surr: TCMX	0.110		ug/L	0.200		55.0	18-112			
Surr: DCB	0.200		ug/L	0.200		100	27-131			



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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0201 - SW3510C										
Blank (BAD0201-BLK1)										
				Prepared: 04/10/2017 Analyzed: 04/14/2017						
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Pentachlorophenol	BLOD	0.500	ug/L							
<i>Surr: DCAA</i>	<i>1.11</i>		ug/L	<i>1.11</i>		<i>100</i>	<i>60-112</i>			
LCS (BAD0201-BS1)										
				Prepared: 04/10/2017 Analyzed: 04/14/2017						
2,4,5-T	0.611	0.500	ug/L	0.556		110	53-144			
2,4,5-TP (Silvex)	0.611	0.500	ug/L	0.556		110	52-129			
2,4-D	0.611	0.500	ug/L	0.556		110	53-126			
Dinoseb	0.389	0.500	ug/L	0.556		70.0	60-137			
Pentachlorophenol	0.500	0.500	ug/L	0.556		90.0	52-124			
<i>Surr: DCAA</i>	<i>1.17</i>		ug/L	<i>1.11</i>		<i>105</i>	<i>60-112</i>			
Matrix Spike (BAD0201-MS1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/14/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129			
2,4-D	0.556	0.500	ug/L	0.556	BLOD	100	53-126			
Dinoseb	0.500	0.500	ug/L	0.556	BLOD	90.0	60-137			
Pentachlorophenol	0.444	0.500	ug/L	0.556	BLOD	80.0	52-124			
<i>Surr: DCAA</i>	<i>2.11</i>		ug/L	<i>1.11</i>		<i>190</i>	<i>60-112</i>			S
Matrix Spike Dup (BAD0201-MSD1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/14/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144	0.00	20	
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129	0.00	20	



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0201 - SW3510C

Matrix Spike Dup (BAD0201-MSD1)	Source: 17D0225-01		Prepared: 04/10/2017 Analyzed: 04/14/2017							
2,4-D	0.500	0.500	ug/L	0.556	BLOD	90.0	53-126	10.5	20	
Dinoseb	0.500	0.500	ug/L	0.556	BLOD	90.0	60-137	0.00	20	
Pentachlorophenol	0.667	0.500	ug/L	0.556	BLOD	120	52-124	40.0	20	P
<i>Surr: DCAA</i>	<i>2.06</i>		ug/L	<i>1.11</i>		<i>185</i>	<i>60-112</i>			<i>S</i>



Certificate of Analysis

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Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0162 - SW8011										
Blank (BAD0162-BLK1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	BLOD	0.010	ug/L							
1,2,3-Trichloropropane	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BLOD	0.010	ug/L							
LCS (BAD0162-BS1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	0.241	0.010	ug/L	0.250		96.5	65-135			
1,2,3-Trichloropropane	0.251	0.010	ug/L	0.250		100	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.250		119	65-135			
LCS Dup (BAD0162-BSD1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	0.270	0.010	ug/L	0.250		108	65-135	11.2	20	
1,2,3-Trichloropropane	0.298	0.010	ug/L	0.250		119	65-135	17.0	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.336	0.010	ug/L	0.250		134	65-135	12.0	20	
Matrix Spike (BAD0162-MS1)				Source: 17D0167-11		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.202	0.010	ug/L	0.248	BLOD	81.7	65-135			
1,2,3-Trichloropropane	0.201	0.010	ug/L	0.248	BLOD	81.4	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.223	0.010	ug/L	0.248	BLOD	89.9	65-135			
Matrix Spike (BAD0162-MS2)				Source: 17D0225-01		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.279	0.010	ug/L	0.255	BLOD	109	65-135			
1,2,3-Trichloropropane	0.234	0.010	ug/L	0.255	BLOD	91.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.372	0.010	ug/L	0.255	BLOD	146	65-135			M
Matrix Spike Dup (BAD0162-MSD1)				Source: 17D0167-11		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.228	0.010	ug/L	0.251	BLOD	91.0	65-135	12.1	20	
1,2,3-Trichloropropane	0.235	0.010	ug/L	0.251	BLOD	93.7	65-135	15.4	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.249	0.010	ug/L	0.251	BLOD	99.3	65-135	11.2	20	



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

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Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0162 - SW8011

Matrix Spike Dup (BAD0162-MSD2)	Source: 17D0225-01		Prepared: 04/07/2017 Analyzed: 04/08/2017							
1,2-Dibromoethane (EDB)	0.286	0.010	ug/L	0.252	BLOD	113	65-135	2.32	20	
1,2,3-Trichloropropane	0.243	0.010	ug/L	0.252	BLOD	96.6	65-135	4.02	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.369	0.010	ug/L	0.252	BLOD	147	65-135	0.813	20	M



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0234 - No Prep Wet Chem										
Blank (BAD0234-BLK1)				Prepared & Analyzed: 04/11/2017						
Sulfide	BLOD	1.00	mg/L							
LCS (BAD0234-BS1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.55	1	mg/L	5.00		91.0	80-120			
LCS Dup (BAD0234-BSD1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.69	1	mg/L	5.00		93.8	80-120	3.03	20	
Matrix Spike (BAD0234-MS1)				Source: 17D0167-11 Prepared & Analyzed: 04/11/2017						
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125			
Matrix Spike (BAD0234-MS2)				Source: 17D0225-01 Prepared & Analyzed: 04/11/2017						
Sulfide	4.77	1.00	mg/L	5.00	BLOD	95.4	75-125			
Matrix Spike Dup (BAD0234-MSD1)				Source: 17D0167-11 Prepared & Analyzed: 04/11/2017						
Sulfide	5.10	1.00	mg/L	5.00	BLOD	102	75-125	4.00	20	
Matrix Spike Dup (BAD0234-MSD2)				Source: 17D0225-01 Prepared & Analyzed: 04/11/2017						
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125	2.69	20	
Batch BAD0235 - No Prep Wet Chem										
Blank (BAD0235-BLK1)				Prepared & Analyzed: 04/11/2017						
Sulfide	BLOD	1.00	mg/L							
LCS (BAD0235-BS1)				Prepared & Analyzed: 04/11/2017						
Sulfide	5.15	1	mg/L	5.00		103	80-120			



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0235 - No Prep Wet Chem										
LCS Dup (BAD0235-BSD1)				Prepared & Analyzed: 04/11/2017						
Sulfide	5.05	1	mg/L	5.00		101	80-120	1.96	20	
Matrix Spike (BAD0235-MS1)				Source: 17D0228-03 Prepared & Analyzed: 04/11/2017						
Sulfide	5.43	1.00	mg/L	5.00	BLOD	109	75-125			
Matrix Spike (BAD0235-MS2)				Source: 17D0228-13 Prepared & Analyzed: 04/11/2017						
Sulfide	5.60	1.00	mg/L	5.00	BLOD	112	75-125			
Matrix Spike Dup (BAD0235-MSD1)				Source: 17D0228-03 Prepared & Analyzed: 04/11/2017						
Sulfide	5.49	1.00	mg/L	5.00	BLOD	110	75-125	1.10	20	
Matrix Spike Dup (BAD0235-MSD2)				Source: 17D0228-13 Prepared & Analyzed: 04/11/2017						
Sulfide	5.56	1.00	mg/L	5.00	BLOD	111	75-125	0.717	20	
Batch BAD0298 - No Prep Wet Chem										
Blank (BAD0298-BLK1)				Prepared & Analyzed: 04/13/2017						
Cyanide	BLOD	0.01	mg/L							
LCS (BAD0298-BS1)				Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250		97.9	80-120			
LCS Dup (BAD0298-BSD1)				Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250		97.6	80-120	0.286	20	
Matrix Spike (BAD0298-MS2)				Source: 17D0228-03 Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	94.7	80-120			



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0298 - No Prep Wet Chem

Matrix Spike Dup (BAD0298-MSD2)	Source: 17D0228-03		Prepared & Analyzed: 04/13/2017							
Cyanide	0.24	0.01	mg/L	0.250	BLOD	96.6	80-120	1.92	20	



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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method:	EPA200.2/R2.8	
17D0225-01	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0225-02	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0225-03	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0225-04	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0225-05	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0225-01	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0225-01RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
17D0225-02	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0225-02RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
17D0225-03	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0225-03RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
17D0225-04	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0225-04RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
17D0225-05	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0225-05RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
17D0225-01	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0225-02	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0225-03	6.00 mL / 6.00 mL	SW9215	BAD0235	SAD0223	
17D0225-04	6.00 mL / 6.00 mL	SW9215	BAD0235	SAD0223	
17D0225-05	6.00 mL / 6.00 mL	SW9215	BAD0235	SAD0223	
17D0225-01	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057
17D0225-02	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
17D0225-03	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057
17D0225-04	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057
17D0225-05	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW1311 SVOC	
17D0225-01	900 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073
17D0225-02	900 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073
17D0225-03	920 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073
17D0225-04	900 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073
17D0225-05	910 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method:	SW3510C	
17D0225-01	920 mL / 1.00 mL	SW8081B	BAD0190	SAD0450	AA70059
17D0225-01	920 mL / 1.00 mL	SW8082A	BAD0190	SAD0451	AA70064
17D0225-01	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0225-02	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0225-03	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0225-04	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0225-05	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0225-02	920 mL / 1.00 mL	SW8081B	BAD0236	SAD0409	AD70062
17D0225-03	930 mL / 1.00 mL	SW8081B	BAD0236	SAD0409	AD70062
17D0225-04	920 mL / 1.00 mL	SW8081B	BAD0236	SAD0409	AD70062
17D0225-05	900 mL / 1.00 mL	SW8081B	BAD0236	SAD0409	AD70062
17D0225-02	920 mL / 1.00 mL	SW8082A	BAD0236	SAD0410	AJ60160
17D0225-03	930 mL / 1.00 mL	SW8082A	BAD0236	SAD0410	AJ60160



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method: SW3510C		
17D0225-04	920 mL / 1.00 mL	SW8082A	BAD0236	SAD0410	AJ60160
17D0225-05	900 mL / 1.00 mL	SW8082A	BAD0236	SAD0410	AJ60160

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
17D0225-01	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0225-02	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0225-03	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0225-04	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0225-05	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17D0225-01	20.0 mL / 20.0 mL	SW7470A	BAD0223	SAD0253	AD70047
17D0225-02	20.0 mL / 20.0 mL	SW7470A	BAD0223	SAD0253	AD70047
17D0225-03	20.0 mL / 20.0 mL	SW7470A	BAD0223	SAD0253	AD70047
17D0225-04	20.0 mL / 20.0 mL	SW7470A	BAD0223	SAD0253	AD70047
17D0225-05	20.0 mL / 20.0 mL	SW7470A	BAD0223	SAD0253	AD70047

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
17D0225-01	61.0 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0225-02	59.7 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0225-03	60.0 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0225-04	61.1 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0225-05	60.6 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054



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Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Non-Potable Water</i>	
Barium	VELAP,WVDEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<i>SW6020A in Non-Potable Water</i>	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Thallium	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8011 in Non-Potable Water</i>	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
<i>SW8081B in Non-Potable Water</i>	
4,4'-DDD	NC,VELAP,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
4,4'-DDE	NC,VELAP,WVDEP
4,4'-DDT	NC,VELAP,WVDEP
Aldrin	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
SW8082A in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC



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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silvex)	VELAP,NC
2,4-D	VELAP,NC
Dinoseb	VELAP,NC
Pentachlorophenol	VELAP,NC
SW8260B in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP



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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Allyl chloride	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
Chloroprene	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethyl methacrylate	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Hexachlorobutadiene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
Isobutyl Alcohol	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methacrylonitrile	NC,VELAP,WVDEP
Methyl methacrylate	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Certified Analyses included in this Report

Analyte	Certifications
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
<i>SW8270D in Non-Potable Water</i>	
1,2,4,5-Tetrachlorobenzene	NC,WVDEP
1,3,5-Trinitrobenzene	NC,WVDEP
1,3-Dinitrobenzene	NC,WVDEP
1,4-Naphthoquinone	NC,WVDEP
1-Naphthylamine	NC,WVDEP
2,3,4,6-Tetrachlorophenol	NC,WVDEP
2,4,5-Trichlorophenol	NC,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,WVDEP
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
2-Chloronaphthalene	NC,VELAP,WVDEP
2-Chlorophenol	NC,VELAP,WVDEP
2-Methylnaphthalene	NC,WVDEP
2-Naphthylamine	NC,WVDEP
2-Nitroaniline	NC,WVDEP
2-Nitrophenol	NC,VELAP,WVDEP
3,3'-Dichlorobenzidine	NC,VELAP,WVDEP
3,3'-Dimethylbenzidine	NC,WVDEP
3-Methylcholanthrene	NC,WVDEP
3-Nitroaniline	NC,WVDEP
4,6-Dinitro-2-methylphenol	NC,VELAP,WVDEP
4-Aminobiphenyl	NC,WVDEP
4-Bromophenyl phenyl ether	NC,VELAP,WVDEP
4-Chloroaniline	NC,WVDEP
4-Chlorophenyl phenyl ether	NC,VELAP,WVDEP
4-Nitroaniline	NC,WVDEP
4-Nitrophenol	NC,VELAP,WVDEP
5-Nitro-o-toluidine	NC,WVDEP
7,12-Dimethylbenz (a) anthracene	NC,WVDEP
Acenaphthene	NC,VELAP,WVDEP
Acenaphthylene	NC,VELAP,WVDEP
Acetophenone	NC,WVDEP
Anthracene	NC,VELAP,WVDEP
Benzo (a) anthracene	NC,VELAP,WVDEP
Benzo (a) pyrene	NC,VELAP,WVDEP
Benzo (b) fluoranthene	NC,VELAP,WVDEP
Benzo (g,h,i) perylene	NC,VELAP,WVDEP
Benzo (k) fluoranthene	NC,VELAP,WVDEP



Certificate of Analysis

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Date Issued: 4/20/2017 2:50:16PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Benzyl alcohol	NC, WVDEP
bis (2-Chloroethoxy) methane	NC, VELAP, WVDEP
bis (2-Chloroethyl) ether	NC, VELAP, WVDEP
2,2'-Oxybis (1-chloropropane)	NC, VELAP, WVDEP
bis (2-Ethylhexyl) phthalate	NC, VELAP, WVDEP
Butyl benzyl phthalate	NC, VELAP, WVDEP
Chlorobenzilate	NC, WVDEP
Chrysene	NC, VELAP, WVDEP
Diallate	NC, WVDEP
Dibenz (a,h) anthracene	NC, VELAP, WVDEP
Dibenzofuran	NC, WVDEP
Diethyl phthalate	NC, VELAP, WVDEP
Dimethoate	NC, WVDEP
Dimethyl phthalate	NC, VELAP, WVDEP
Di-n-butyl phthalate	NC, VELAP, WVDEP
Di-n-octyl phthalate	NC, VELAP, WVDEP
Diphenylamine	NC, WVDEP
Disulfoton	NC, WVDEP
Ethyl methanesulfonate	NC, WVDEP
Ethyl parathion	NC, WVDEP
Famphur	NC, WVDEP
Fluoranthene	NC, VELAP, WVDEP
Fluorene	NC, VELAP, WVDEP
Hexachlorobenzene	NC, VELAP, WVDEP
Hexachlorobutadiene	NC, VELAP, WVDEP
Hexachlorocyclopentadiene	NC, VELAP, WVDEP
Hexachloroethane	NC, VELAP, WVDEP
Hexachloropropene	NC, WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Certified Analyses included in this Report

Analyte	Certifications
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
Isodrin	NC,WVDEP
Isophorone	NC,VELAP,WVDEP
Isosafrole	NC,WVDEP
Kepone	NC,WVDEP
m+p-Cresols	NC,WVDEP
Methapyrilene	NC,WVDEP
Methyl methanesulfonate	NC,WVDEP
Methyl parathion	NC,WVDEP
Naphthalene	NC,VELAP,WVDEP
Nitrobenzene	NC,VELAP,WVDEP
n-Nitrosodiethylamine	NC,WVDEP
n-Nitrosodimethylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-butylamine	NC,WVDEP
n-Nitrosodi-n-propylamine	NC,VELAP,WVDEP
n-Nitrosodiphenylamine	NC,VELAP,WVDEP
n-Nitrosomethylethylamine	NC,WVDEP
n-Nitrosopiperidine	NC,WVDEP
n-Nitrosopyrrolidine	NC,WVDEP
o,o,o-Triethyl phosphorothioate	NC,WVDEP
o,o-Diethyl o-2-pyrazinyl phosphorothioate	NC,WVDEP
o+m+p-Cresols	NC,WVDEP
o-Cresol	NC,VELAP,WVDEP
o-Toluidine	NC,WVDEP
p-(Dimethylamino) azobenzene	NC,WVDEP
p-Chloro-m-cresol	NC,VELAP,WVDEP
Pentachlorobenzene	NC,WVDEP
Pentachloronitrobenzene (quintozene)	NC,WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Certified Analyses included in this Report

Analyte	Certifications
Phenacetin	NC, WVDEP
Phenanthrene	NC, VELAP, WVDEP
Phenol	NC, VELAP, WVDEP
Phorate	NC, WVDEP
p-Phenylenediamine	NC, WVDEP
Pronamide	NC, WVDEP
Pyrene	NC, VELAP, WVDEP
Safrole	NC, WVDEP
SW9012B in Non-Potable Water	
Cyanide	VELAP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #9035	460021	06/15/2017
WVDEP	West Virginia DEP	350	11/30/2017



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Qualifiers and Definitions

- C Continuing calibration verification response for this analyte is outside specifications.
- Cl Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
- E Estimated concentration, outside calibration range
- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- S Surrogate recovery was outside acceptance criteria
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLOD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: Culpeper GW Compliance
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill
ADDRESS: 1504 Overby Lane, Richmond, VA 23220	INVOICE ADDRESS: 151 West Davis Street, Suite 101, Culpeper, VA 23071	PROJECT NUMBER: 310.1701.03.01
PHONE #: (804) 355-4520	INVOICE PHONE #: (540) 727-2888	P.O. #:
FAX #: (804) 355-4282	EMAIL: white@joyceengineering.com	Pretreatment Program: No
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Is sample from a chlorinated supply? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	PWS ID. #:
SAMPLER NAME (PRINT): M. Anderson	SAMPLER SIGNATURE: <i>M. Anderson</i>	Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste Water/Storm Water DW=Ground Water DR=Drinking Water S=Soils/Solids OR=Organic A=Air WP=Wipes OT=Other

CLIENT SAMPLE I.D.	Grab Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS
										VSWMR Table 3.1 Column B						
1) MW-1B (MS/MSD)	X				4/6/17	07:46		GW	2	X						
2) MW-2B	X				↓	07:46		GW	1	X						
3) MW-3A	X				↓	07:46		GW	1	X						
4) MW-4	X				↓	07:46		GW	1	X						
5) MW-20	X				4/6/17	07:45		GW	1	X						
6)																
7)																
8)																No lead
9)																On lead

DISPATCHED: <i>[Signature]</i> DATE / TIME: 4/6/17 1545	RECEIVED: <i>[Signature]</i> DATE / TIME: 4/6/17 1345	OC Data Package Level I <input type="checkbox"/> Level II <input checked="" type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>	LAB USE ONLY JEI-R Laurel Valley Compliance Wells Recd: 04/06/2017 Due: 04/20/2017	COOLER TEMP 51 °C 17D0225
DISPATCHED: <i>[Signature]</i> DATE / TIME: 4/6/17 1510	RECEIVED: <i>[Signature]</i> DATE / TIME: 4/6/17 1110			
DISPATCHED: <i>[Signature]</i> DATE / TIME: 4/6/17 1601	RECEIVED: <i>[Signature]</i> DATE / TIME: 4/6/17 1505			

Sample Finest Fraction Log

Date of Sample Collection _____

 Date of Analysis _____

 Page No. _____

Analytical Method Used _____

Depth (m)	Sample Information					Grain Size Distribution (%)					Total Solids (%)	Loss on Ignition (%)	
	Sample No.	Location	Date	Depth (m)	Depth (cm)	> 4.75 mm	4.75 - 0.85 mm	0.85 - 0.425 mm	0.425 - 0.25 mm	0.25 - 0.15 mm			0.15 - 0.075 mm
0													
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

WAF No. _____ WDC No. _____ Environmental Dept File No. _____

 WFA No. _____ Location _____ Test Method Approved by EPA _____

 Date _____ WDC No. _____ EPA File No. _____



Br. C 1145

School Presentation Log

Školski godišnjak 2021/22

Škola: Škola za potrebe
 Klasa: 10
 Predmet: 2021
 Strana: 1

Školski godišnjak 2021/22

Školski broj	Datum	Prisutnost	Nastava		Ostalo		Bilješke	Prisutnost roditelja	Značajne napomene
			Učiva	Šteta	Učiva	Šteta			
11	F								
12	F								
13	F								
14	F								
15	F								
16	F								
17	F								
18	F								
19	F								
20	F								
21	F								
22	F								
23	F								
24	F								
25	F								
26	F								
27	F								
28	F								
29	F								
30	F								

Datum: _____ Prilozi: _____ Školski broj: _____
 Klasa: _____ Nastava: _____ Bilješke: _____
 Predmet: _____ Prisutnost roditelja: _____
 Škola: _____



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 4/20/2017 2:50:16PM

Sample Conditions Checklist

Samples Received at:	5.10°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

For Trip Blank see work order 17D0221. JPV 04/07/2017 11:09



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-01 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2320B-2011	27.5		5.0	5.0	1	mg/L
Chloride	01	EPA300.0 R2.1	2.0		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.36		0.07	0.15	1	mg/L
Nitrate+Nitrite as N	01	SM22 4500-NO3F-2011	0.36		0.02	0.10	1	mg/L

Laboratory Sample ID: 17D0198-02 Client Sample ID: MW-6

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW6010C	40.5		2.0	4.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	0.90	J	0.20	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	0.32	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	11.6		0.20	1.00	1	ug/L
Benzene	02	SW8260B	2.30		0.20	1.00	1	ug/L
Chlorobenzene	02	SW8260B	5.30		0.10	1.00	1	ug/L
Chloroethane	02	SW8260B	0.82	J	0.20	1.00	1	ug/L
Chloromethane	02	SW8260B	0.57	J	0.30	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	4.69		0.20	1.00	1	ug/L
Dichlorodifluoromethane	02	SW8260B	0.43	J	0.20	1.00	1	ug/L
m+p-Xylenes	02	SW8260B	0.49	J	0.20	2.00	1	ug/L
Naphthalene	02	SW8260B	0.37	J	0.20	1.00	1	ug/L
o-Xylene	02	SW8260B	0.19	J	0.10	1.00	1	ug/L
Trichloroethylene	02	SW8260B	0.48	J	0.20	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.55		0.20	0.50	1	ug/L
Xylenes, Total	02	SW8260B	0.68	J	0.30	3.00	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-03 Client Sample ID: MW-X1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	03	SW6010C	104		2.0	4.0	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	0.78	J	0.20	1.00	1	ug/L
Benzene	03	SW8260B	0.58	J	0.20	1.00	1	ug/L
Chlorobenzene	03	SW8260B	4.80		0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	0.80	J	0.20	1.00	1	ug/L
Toluene	03	SW8260B	0.23	J	0.20	1.00	1	ug/L

Laboratory Sample ID: 17D0198-04 Client Sample ID: CLF-1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	04	SW6010C	55.3		2.0	4.0	1	ug/L
1,1-Dichloroethane	04	SW8260B	1.28		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260B	0.32	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260B	7.26		0.20	1.00	1	ug/L
Benzene	04	SW8260B	2.16		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	4.43		0.10	1.00	1	ug/L
Chloroethane	04	SW8260B	0.72	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	8.34		0.20	1.00	1	ug/L

Laboratory Sample ID: 17D0198-05 Client Sample ID: MW-3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	05	SW6010C	3.9	J	2.0	4.0	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-07 Client Sample ID: MW-1C

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	07	SW6010C	32.1		2.0	4.0	1	ug/L
1,1-Dichloroethane	07	SW8260B	17.9		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	07	SW8260B	0.28	J	0.20	1.00	1	ug/L
1,2-Dichloroethane	07	SW8260B	0.44	J	0.30	1.00	1	ug/L
1,2-Dichloropropane	07	SW8260B	1.10		0.30	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW8260B	4.34		0.20	1.00	1	ug/L
Benzene	07	SW8260B	1.24		0.20	1.00	1	ug/L
Chlorobenzene	07	SW8260B	1.83		0.10	1.00	1	ug/L
Chloroethane	07	SW8260B	4.57		0.20	1.00	1	ug/L
Chloromethane	07	SW8260B	1.07		0.30	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8260B	23.7		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	07	SW8260B	0.47	J	0.20	1.00	1	ug/L
trans-1,2-Dichloroethylene	07	SW8260B	0.52	J	0.20	1.00	1	ug/L
Trichloroethylene	07	SW8260B	2.17		0.20	1.00	1	ug/L
Vinyl chloride	07	SW8260B	5.21		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-08 **Client Sample ID: MW-1D**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	08	SW6010C	19.8		2.0	4.0	1	ug/L
1,1-Dichloroethane	08	SW8260B	1.23		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8260B	4.26		0.20	1.00	1	ug/L
Benzene	08	SW8260B	0.73	J	0.20	1.00	1	ug/L
Chlorobenzene	08	SW8260B	1.50		0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8260B	15.4		0.20	1.00	1	ug/L
Trichloroethylene	08	SW8260B	0.40	J	0.20	1.00	1	ug/L
Vinyl chloride	08	SW8260B	3.41		0.20	0.50	1	ug/L

Laboratory Sample ID: 17D0198-09 **Client Sample ID: MW-1E**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	09	SW8260B	2.86		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	09	SW8260B	0.78	J	0.20	1.00	1	ug/L
Benzene	09	SW8260B	0.39	J	0.20	1.00	1	ug/L
Chlorobenzene	09	SW8260B	0.21	J	0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	09	SW8260B	20.7		0.20	1.00	1	ug/L
Trichloroethylene	09	SW8260B	3.25		0.20	1.00	1	ug/L
Vinyl chloride	09	SW8260B	1.65		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-10 **Client Sample ID: MW-1F**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	10	SW8260B	1.99		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	10	SW8260B	0.40	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	10	SW8260B	4.80		0.20	1.00	1	ug/L
Trichloroethylene	10	SW8260B	1.34		0.20	1.00	1	ug/L
Vinyl chloride	10	SW8260B	0.41	J	0.20	0.50	1	ug/L

Laboratory Sample ID: 17D0198-11 **Client Sample ID: MW-1G**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	11	SW8260B	4.71		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260B	1.59		0.20	1.00	1	ug/L
Benzene	11	SW8260B	1.28		0.20	1.00	1	ug/L
Chlorobenzene	11	SW8260B	0.48	J	0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260B	19.0		0.20	1.00	1	ug/L
Dichlorodifluoromethane	11	SW8260B	0.33	J	0.20	1.00	1	ug/L
Trichloroethylene	11	SW8260B	3.45		0.20	1.00	1	ug/L
Vinyl chloride	11	SW8260B	5.65		0.20	0.50	1	ug/L

Laboratory Sample ID: 17D0198-12 **Client Sample ID: MW-1H**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	12	SW8260B	1.79		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260B	0.37	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260B	6.82		0.20	1.00	1	ug/L
Trichloroethylene	12	SW8260B	1.42		0.20	1.00	1	ug/L
Vinyl chloride	12	SW8260B	0.28	J	0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-14 **Client Sample ID: MW-X2**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	14	RSK175M	15.7		1.1	5.0	1	ug/L
Alkalinity	14	SM22 2320B-2011	67.4		5.0	5.0	1	mg/L
Chloride	14	EPA300.0 R2.1	26.1		2.5	5.0	5	mg/L
Nitrate as N	14	Calc.	6.60		0.15	0.55	1	mg/L
Nitrate+Nitrite as N	14RE1	SM22 4500-NO3F-2011	6.60		0.10	0.50	1	mg/L
Sulfate	14	EPA300.0 R2.1	12.5		2.5	5.0	5	mg/L

Laboratory Sample ID: 17D0198-15 **Client Sample ID: CLF-15A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	15	SW8260B	5.00		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	15	SW8260B	22.1		0.20	1.00	1	ug/L
Dichlorodifluoromethane	15	SW8260B	1.88		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	15	SW8260B	0.59	J	0.20	1.00	1	ug/L
Trichloroethylene	15	SW8260B	13.3		0.20	1.00	1	ug/L
Methane	15	RSK175M	365		1.1	5.0	1	ug/L
Alkalinity	15	SM22 2320B-2011	150		5.0	5.0	1	mg/L
Chloride	15RE1	EPA300.0 R2.1	65.7		5.0	10.0	10	mg/L
Sulfate	15	EPA300.0 R2.1	151		25.0	50.0	50	mg/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Laboratory Sample ID: 17D0198-16 Client Sample ID: PZ-4E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	16	SW7470A	0.26		0.20	0.20	1	ug/L
cis-1,2-Dichloroethylene	16	SW8260B	0.47	J	0.20	1.00	1	ug/L
Dichlorodifluoromethane	16	SW8260B	0.65	J	0.20	1.00	1	ug/L
m+p-Xylenes	16	SW8260B	0.30	J	0.20	2.00	1	ug/L
Tetrachloroethylene (PCE)	16	SW8260B	0.40	J	0.20	1.00	1	ug/L
Trichloroethylene	16	SW8260B	0.38	J	0.20	1.00	1	ug/L
Vinyl chloride	16	SW8260B	0.43	J	0.20	0.50	1	ug/L
Xylenes, Total	16	SW8260B	0.30	J	0.30	3.00	1	ug/L
Methane	16RE1	RSK175M	3480		5.6	25.0	5	ug/L
Alkalinity	16	SM22 2320B-2011	30.0		5.0	5.0	1	mg/L
Chloride	16	EPA300.0 R2.1	2.4		0.5	1.0	1	mg/L

Laboratory Sample ID: 17D0198-17 Client Sample ID: CLF-S3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	17	SW8260B	0.63	J	0.20	1.00	1	ug/L
Methane	17RE1	RSK175M	3.0	J	1.1	5.0	1	ug/L
Alkalinity	17	SM22 2320B-2011	91.0		5.0	5.0	1	mg/L
Chloride	17RE1	EPA300.0 R2.1	4.3		0.5	1.0	1	mg/L
Nitrate as N	17	Calc.	0.21		0.07	0.15	1	mg/L
Nitrate+Nitrite as N	17	SM22 4500-NO3F-2011	0.21		0.02	0.10	1	mg/L
Sulfate	17	EPA300.0 R2.1	54.6		5.0	10.0	10	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17D0198

Client Name: Joyce Engineering, Inc.-Richmond
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 6, 2017 16:05
Date Issued: April 20, 2017 14:55
Project Number: 310.1601.03.02
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/06/2017 16:05. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	17D0198-01	Ground Water	04/06/2017 08:45	04/06/2017 16:05
MW-6	17D0198-02	Ground Water	04/05/2017 10:20	04/06/2017 16:05
MW-X1	17D0198-03	Ground Water	04/05/2017 10:05	04/06/2017 16:05
CLF-1	17D0198-04	Ground Water	04/05/2017 11:05	04/06/2017 16:05
MW-3	17D0198-05	Ground Water	04/05/2017 11:55	04/06/2017 16:05
MW-5	17D0198-06	Ground Water	04/05/2017 09:35	04/06/2017 16:05
MW-1C	17D0198-07	Ground Water	04/05/2017 08:15	04/06/2017 16:05
MW-1D	17D0198-08	Ground Water	04/05/2017 12:05	04/06/2017 16:05
MW-1E	17D0198-09	Ground Water	04/05/2017 11:45	04/06/2017 16:05
MW-1F	17D0198-10	Ground Water	04/05/2017 07:15	04/06/2017 16:05
MW-1G	17D0198-11	Ground Water	04/05/2017 12:15	04/06/2017 16:05
MW-1H	17D0198-12	Ground Water	04/06/2017 07:30	04/06/2017 16:05
MW-1I	17D0198-13	Ground Water	04/05/2017 12:25	04/06/2017 16:05
MW-X2	17D0198-14	Ground Water	04/06/2017 09:10	04/06/2017 16:05
CLF-15A	17D0198-15	Ground Water	04/06/2017 08:10	04/06/2017 16:05
PZ-4E	17D0198-16	Ground Water	04/06/2017 08:20	04/06/2017 16:05
CLF-S3	17D0198-17	Ground Water	04/06/2017 07:45	04/06/2017 16:05
MW-X2D	17D0198-18	Ground Water	04/05/2017 09:50	04/06/2017 16:05
CLF-S1	17D0198-19	Ground Water	04/06/2017 08:00	04/06/2017 16:05



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-20

Laboratory Sample ID: 17D0198-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-8	RSK175M	04/13/2017 11:18	04/13/2017 11:18	BLOD		1.1	5.0	1	ug/L	CL
<i>Surr: Acetylene (Surr)</i>	<i>01</i>	<i>97.1 %</i>	<i>70-130</i>	<i>04/13/2017 11:18</i>	<i>04/13/2017 11:18</i>							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 2320B-2011	04/10/2017 09:30	04/10/2017 09:30	27.5		5.0	5.0	1	mg/L	CMB
Chloride	01	16887-00-6	EPA300.0 R2.1	04/10/2017 14:22	04/10/2017 14:22	2.0		0.5	1.0	1	mg/L	JSKL
Nitrate as N	01	14797-55-8	Calc.	04/11/2017 14:44	04/11/2017 14:44	0.36		0.07	0.15	1	mg/L	BBP
Nitrate+Nitrite as N	01	NA	SM22 4500-NO3F- 2011	04/11/2017 14:44	04/11/2017 14:44	0.36		0.02	0.10	1	mg/L	JCM
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	04/07/2017 10:00	04/07/2017 10:00	BLOD		0.05	0.05	1	mg/L	BBP
Sulfate	01	14808-79-8	EPA300.0 R2.1	04/10/2017 14:22	04/10/2017 14:22	BLOD		0.5	1.0	1	mg/L	JSKL



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-6

Laboratory Sample ID: 17D0198-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	02	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:05	40.5		2.0	4.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	02	71-55-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	02	79-00-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	02	75-34-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.90	J	0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	02	96-18-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	02	95-50-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.32	J	0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	02	107-06-2	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	02	78-87-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/07/2017 12:07	04/07/2017 12:07	11.6		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	02	78-93-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	02	591-78-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	02	67-64-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	02	107-13-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	02	71-43-2	SW8260B	04/07/2017 12:07	04/07/2017 12:07	2.30		0.20	1.00	1	ug/L	LAO
Bromochloromethane	02	74-97-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	02	75-27-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	02	75-25-2	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	02	74-83-9	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	02	75-15-0	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		1.00	10.0	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-6

Laboratory Sample ID: 17D0198-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	02	108-90-7	SW8260B	04/07/2017 12:07	04/07/2017 12:07	5.30		0.10	1.00	1	ug/L	LAO
Chloroethane	02	75-00-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.82	J	0.20	1.00	1	ug/L	LAO
Chloroform	02	67-66-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	02	74-87-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.57	J	0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	04/07/2017 12:07	04/07/2017 12:07	4.69		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	02	124-48-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	02	74-95-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	02	75-71-8	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.43	J	0.20	1.00	1	ug/L	LAO
Ethylbenzene	02	100-41-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	02	74-88-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	02	179601-23-1	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.49	J	0.20	2.00	1	ug/L	LAO
Methylene chloride	02	75-09-2	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		1.00	4.00	1	ug/L	LAO
Naphthalene	02	91-20-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.37	J	0.20	1.00	1	ug/L	LAO
o-Xylene	02	95-47-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.19	J	0.10	1.00	1	ug/L	LAO
Styrene	02	100-42-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	02	108-88-3	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	02	79-01-6	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.48	J	0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	02	75-69-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		0.20	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-6

Laboratory Sample ID: 17D0198-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	02	108-05-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	02	75-01-4	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.55		0.20	0.50	1	ug/L	LAO
Xylenes, Total	02	1330-20-7	SW8260B	04/07/2017 12:07	04/07/2017 12:07	0.68	J	0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	02	92.2 %	70-120	04/07/2017 12:07	04/07/2017 12:07							
Surr: 4-Bromofluorobenzene	02	96.8 %	75-120	04/07/2017 12:07	04/07/2017 12:07							
Surr: Dibromofluoromethane	02	92.1 %	80-119	04/07/2017 12:07	04/07/2017 12:07							
Surr: Toluene-d8	02	101 %	85-120	04/07/2017 12:07	04/07/2017 12:07							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17D0198-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	03	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:16	104		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17D0198-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	03	71-55-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	03	79-00-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	03	75-34-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	03	75-35-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	03	96-18-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	03	95-50-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	03	107-06-2	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	03	78-87-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	03	106-46-7	SW8260B	04/07/2017 12:31	04/07/2017 12:31	0.78	J	0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	03	78-93-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	03	591-78-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	03	67-64-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	03	107-13-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	03	71-43-2	SW8260B	04/07/2017 12:31	04/07/2017 12:31	0.58	J	0.20	1.00	1	ug/L	LAO
Bromochloromethane	03	74-97-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	03	75-27-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	03	75-25-2	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	03	74-83-9	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	03	75-15-0	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	03	56-23-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	03	108-90-7	SW8260B	04/07/2017 12:31	04/07/2017 12:31	4.80		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17D0198-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	03	75-00-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	03	67-66-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	03	74-87-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	04/07/2017 12:31	04/07/2017 12:31	0.80	J	0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	03	124-48-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	03	74-95-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	03	75-71-8	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	03	100-41-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	03	74-88-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	03	179601-23-1	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	03	75-09-2	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		1.00	4.00	1	ug/L	LAO
Naphthalene	03	91-20-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
o-Xylene	03	95-47-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	03	100-42-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	03	108-88-3	SW8260B	04/07/2017 12:31	04/07/2017 12:31	0.23	J	0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	03	79-01-6	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	03	75-69-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	03	108-05-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		2.20	10.0	1	ug/L	LAO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17D0198-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	03	75-01-4	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.20	0.50	1	ug/L	LAO
Xylenes, Total	03	1330-20-7	SW8260B	04/07/2017 12:31	04/07/2017 12:31	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	03	93.5 %	70-120	04/07/2017 12:31	04/07/2017 12:31							
Surr: 4-Bromofluorobenzene	03	96.4 %	75-120	04/07/2017 12:31	04/07/2017 12:31							
Surr: Dibromofluoromethane	03	93.0 %	80-119	04/07/2017 12:31	04/07/2017 12:31							
Surr: Toluene-d8	03	99.8 %	85-120	04/07/2017 12:31	04/07/2017 12:31							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17D0198-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	04	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:18	55.3		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17D0198-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	04	71-55-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	04	79-00-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	04	75-34-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	1.28		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	04	75-35-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	04	96-18-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	04	95-50-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	0.32	J	0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	04	107-06-2	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	04	78-87-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	04	106-46-7	SW8260B	04/07/2017 12:54	04/07/2017 12:54	7.26		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	04	78-93-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	04	591-78-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	04	67-64-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	04	107-13-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	04	71-43-2	SW8260B	04/07/2017 12:54	04/07/2017 12:54	2.16		0.20	1.00	1	ug/L	LAO
Bromochloromethane	04	74-97-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	04	75-27-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	04	75-25-2	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	04	74-83-9	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	04	75-15-0	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	04	56-23-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	04	108-90-7	SW8260B	04/07/2017 12:54	04/07/2017 12:54	4.43		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17D0198-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	0.72	J	0.20	1.00	1	ug/L	LAO
Chloroform	04	67-66-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	04	74-87-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	04	156-59-2	SW8260B	04/07/2017 12:54	04/07/2017 12:54	8.34		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	04	10061-01-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	04	124-48-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	04	74-95-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	04	75-71-8	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	04	100-41-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	04	74-88-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	04	179601-23-1	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	04	75-09-2	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		1.00	4.00	1	ug/L	LAO
Naphthalene	04	91-20-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
o-Xylene	04	95-47-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	04	100-42-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	04	108-88-3	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	04	156-60-5	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	04	10061-02-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	04	79-01-6	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	04	75-69-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	04	108-05-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		2.20	10.0	1	ug/L	LAO



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17D0198-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.20	0.50	1	ug/L	LAO
Xylenes, Total	04	1330-20-7	SW8260B	04/07/2017 12:54	04/07/2017 12:54	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	04	94.8 %	70-120	04/07/2017 12:54	04/07/2017 12:54							
Surr: 4-Bromofluorobenzene	04	98.0 %	75-120	04/07/2017 12:54	04/07/2017 12:54							
Surr: Dibromofluoromethane	04	92.0 %	80-119	04/07/2017 12:54	04/07/2017 12:54							
Surr: Toluene-d8	04	100 %	85-120	04/07/2017 12:54	04/07/2017 12:54							



Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-3

Laboratory Sample ID: 17D0198-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	05	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:20	3.9	J	2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-3

Laboratory Sample ID: 17D0198-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	05	71-55-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
1,1,1,2-Tetrachloroethane	05	79-34-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	05	79-00-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	05	75-34-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	05	75-35-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	05	96-18-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	05	95-50-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	05	107-06-2	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	05	78-87-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	05	106-46-7	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	05	78-93-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	05	591-78-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	05	67-64-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	05	107-13-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	05	71-43-2	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	05	74-97-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	05	75-27-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	05	75-25-2	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	05	74-83-9	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	05	75-15-0	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	05	56-23-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	05	108-90-7	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-3

Laboratory Sample ID: 17D0198-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-00-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	05	67-66-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	05	74-87-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	05	156-59-2	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	05	10061-01-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	05	124-48-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	05	74-95-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	05	75-71-8	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	05	100-41-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	05	74-88-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	05	179601-23-1	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	05	75-09-2	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	05	95-47-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	05	100-42-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	05	127-18-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	05	108-88-3	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	05	156-60-5	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	05	10061-02-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	05	79-01-6	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	05	75-69-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	05	108-05-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	05	75-01-4	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-3

Laboratory Sample ID: 17D0198-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	05	1330-20-7	SW8260B	04/07/2017 13:18	04/07/2017 13:18	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	05	91.7 %	70-120	04/07/2017 13:18	04/07/2017 13:18							
Surr: 4-Bromofluorobenzene	05	97.0 %	75-120	04/07/2017 13:18	04/07/2017 13:18							
Surr: Dibromofluoromethane	05	93.0 %	80-119	04/07/2017 13:18	04/07/2017 13:18							
Surr: Toluene-d8	05	100 %	85-120	04/07/2017 13:18	04/07/2017 13:18							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-5

Laboratory Sample ID: 17D0198-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	06	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:21	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-5

Laboratory Sample ID: 17D0198-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	06	71-55-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	06	79-00-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	06	75-34-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	06	75-35-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	06	96-18-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	06	95-50-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	06	107-06-2	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	06	78-87-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	06	106-46-7	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	06	78-93-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	06	591-78-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	06	67-64-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	06	107-13-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	06	71-43-2	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	06	74-97-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	06	75-27-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	06	75-25-2	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	06	74-83-9	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	06	75-15-0	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	06	56-23-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	06	108-90-7	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-5

Laboratory Sample ID: 17D0198-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	06	75-00-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	06	67-66-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	06	74-87-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	06	156-59-2	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	06	10061-01-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	06	124-48-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	06	74-95-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	06	75-71-8	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	06	100-41-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	06	74-88-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	06	179601-23-1	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	06	75-09-2	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	06	95-47-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	06	100-42-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	06	127-18-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	06	108-88-3	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	06	156-60-5	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	06	10061-02-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	06	79-01-6	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	06	75-69-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	06	108-05-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	06	75-01-4	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-5

Laboratory Sample ID: 17D0198-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	06	1330-20-7	SW8260B	04/07/2017 13:42	04/07/2017 13:42	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	06	92.4 %	70-120	04/07/2017 13:42	04/07/2017 13:42							
Surr: 4-Bromofluorobenzene	06	97.6 %	75-120	04/07/2017 13:42	04/07/2017 13:42							
Surr: Dibromofluoromethane	06	91.1 %	80-119	04/07/2017 13:42	04/07/2017 13:42							
Surr: Toluene-d8	06	101 %	85-120	04/07/2017 13:42	04/07/2017 13:42							



Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17D0198-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	07	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:23	32.1		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17D0198-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	07	71-55-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	07	79-00-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	07	75-34-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	17.9		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	07	75-35-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	07	96-18-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	07	95-50-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.28	J	0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	07	107-06-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.44	J	0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	07	78-87-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.10		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	07	106-46-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	4.34		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	07	78-93-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	07	591-78-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	07	67-64-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	07	107-13-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	07	71-43-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.24		0.20	1.00	1	ug/L	LAO
Bromochloromethane	07	74-97-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	07	75-27-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	07	75-25-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	07	74-83-9	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	07	75-15-0	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	07	56-23-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	07	108-90-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.83		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17D0198-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	4.57		0.20	1.00	1	ug/L	LAO
Chloroform	07	67-66-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	07	74-87-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	1.07		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	07	156-59-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	23.7		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	07	10061-01-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	07	124-48-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	07	74-95-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	07	75-71-8	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	07	100-41-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	07	74-88-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	07	179601-23-1	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	07	75-09-2	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	07	95-47-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	07	100-42-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	07	127-18-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.47	J	0.20	1.00	1	ug/L	LAO
Toluene	07	108-88-3	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	07	156-60-5	SW8260B	04/07/2017 14:07	04/07/2017 14:07	0.52	J	0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	07	10061-02-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	07	79-01-6	SW8260B	04/07/2017 14:07	04/07/2017 14:07	2.17		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	07	75-69-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	07	108-05-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	07	75-01-4	SW8260B	04/07/2017 14:07	04/07/2017 14:07	5.21		0.20	0.50	1	ug/L	LAO
Xylenes, Total	07	1330-20-7	SW8260B	04/07/2017 14:07	04/07/2017 14:07	BLOD		0.30	3.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17D0198-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: 1,2-Dichloroethane-d4	07	93.4 %	70-120	04/07/2017 14:07	04/07/2017 14:07							
Surr: 4-Bromofluorobenzene	07	99.3 %	75-120	04/07/2017 14:07	04/07/2017 14:07							
Surr: Dibromofluoromethane	07	90.9 %	80-119	04/07/2017 14:07	04/07/2017 14:07							
Surr: Toluene-d8	07	99.7 %	85-120	04/07/2017 14:07	04/07/2017 14:07							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17D0198-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	08	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:25	19.8		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17D0198-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	08	630-20-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	08	71-55-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	08	79-34-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	08	79-00-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	08	75-34-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	1.23		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	08	75-35-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	08	96-18-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	08	95-50-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	08	107-06-2	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	08	78-87-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	08	106-46-7	SW8260B	04/07/2017 14:30	04/07/2017 14:30	4.26		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	08	78-93-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	08	591-78-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	08	108-10-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	08	67-64-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	08	107-13-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	08	71-43-2	SW8260B	04/07/2017 14:30	04/07/2017 14:30	0.73	J	0.20	1.00	1	ug/L	LAO
Bromochloromethane	08	74-97-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	08	75-27-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	08	75-25-2	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	08	74-83-9	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	08	75-15-0	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	08	56-23-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	08	108-90-7	SW8260B	04/07/2017 14:30	04/07/2017 14:30	1.50		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17D0198-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-00-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	08	67-66-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	08	74-87-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	08	156-59-2	SW8260B	04/07/2017 14:30	04/07/2017 14:30	15.4		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	08	10061-01-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	08	124-48-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	08	74-95-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	08	75-71-8	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	08	100-41-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	08	74-88-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	08	179601-23-1	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	08	75-09-2	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	08	95-47-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	08	100-42-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	08	127-18-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	08	108-88-3	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	08	156-60-5	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	08	10061-02-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	08	110-57-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	08	79-01-6	SW8260B	04/07/2017 14:30	04/07/2017 14:30	0.40	J	0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	08	75-69-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	08	108-05-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	08	75-01-4	SW8260B	04/07/2017 14:30	04/07/2017 14:30	3.41		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17D0198-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	08	1330-20-7	SW8260B	04/07/2017 14:30	04/07/2017 14:30	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	08	97.4 %	70-120	04/07/2017 14:30	04/07/2017 14:30							
Surr: 4-Bromofluorobenzene	08	97.6 %	75-120	04/07/2017 14:30	04/07/2017 14:30							
Surr: Dibromofluoromethane	08	96.4 %	80-119	04/07/2017 14:30	04/07/2017 14:30							
Surr: Toluene-d8	08	101 %	85-120	04/07/2017 14:30	04/07/2017 14:30							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17D0198-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	09	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:27	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17D0198-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	09	630-20-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	09	71-55-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	09	79-34-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	09	79-00-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	09	75-34-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	2.86		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	09	75-35-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	09	96-18-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	09	95-50-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	09	107-06-2	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	09	78-87-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	09	106-46-7	SW8260B	04/07/2017 14:55	04/07/2017 14:55	0.78	J	0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	09	78-93-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	09	591-78-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	09	67-64-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	09	107-13-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	09	71-43-2	SW8260B	04/07/2017 14:55	04/07/2017 14:55	0.39	J	0.20	1.00	1	ug/L	LAO
Bromochloromethane	09	74-97-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	09	75-27-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	09	75-25-2	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	09	74-83-9	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	09	75-15-0	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	09	56-23-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	09	108-90-7	SW8260B	04/07/2017 14:55	04/07/2017 14:55	0.21	J	0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17D0198-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-00-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	09	67-66-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	09	74-87-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	09	156-59-2	SW8260B	04/07/2017 14:55	04/07/2017 14:55	20.7		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	09	10061-01-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	09	124-48-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	09	74-95-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	09	75-71-8	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	09	100-41-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	09	74-88-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	09	179601-23-1	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	09	75-09-2	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	09	95-47-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	09	100-42-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	09	127-18-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	09	108-88-3	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	09	156-60-5	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	09	10061-02-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	09	110-57-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	09	79-01-6	SW8260B	04/07/2017 14:55	04/07/2017 14:55	3.25		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	09	75-69-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	09	108-05-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	09	75-01-4	SW8260B	04/07/2017 14:55	04/07/2017 14:55	1.65		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17D0198-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	09	1330-20-7	SW8260B	04/07/2017 14:55	04/07/2017 14:55	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	09	95.6 %	70-120	04/07/2017 14:55	04/07/2017 14:55							
Surr: 4-Bromofluorobenzene	09	97.6 %	75-120	04/07/2017 14:55	04/07/2017 14:55							
Surr: Dibromofluoromethane	09	91.9 %	80-119	04/07/2017 14:55	04/07/2017 14:55							
Surr: Toluene-d8	09	101 %	85-120	04/07/2017 14:55	04/07/2017 14:55							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17D0198-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	10	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:33	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17D0198-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	10	630-20-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	10	71-55-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	10	79-34-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	10	79-00-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	10	75-34-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	1.99		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	10	75-35-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	10	96-18-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	10	95-50-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	10	107-06-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	10	78-87-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	10	106-46-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	0.40	J	0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	10	78-93-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	10	591-78-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	10	108-10-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	10	67-64-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	10	107-13-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	10	71-43-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	10	74-97-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	10	75-27-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	10	75-25-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	10	74-83-9	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	10	75-15-0	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	10	56-23-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	10	108-90-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17D0198-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-00-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	10	67-66-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	10	74-87-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	10	156-59-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	4.80		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	10	10061-01-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	10	124-48-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	10	74-95-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	10	75-71-8	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	10	100-41-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	10	74-88-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	10	179601-23-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	10	75-09-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	10	95-47-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	10	100-42-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	10	127-18-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	10	108-88-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	10	156-60-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	10	10061-02-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	10	110-57-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	10	79-01-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	1.34		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	10	75-69-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	10	108-05-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	10	75-01-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	0.41	J	0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17D0198-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	10	1330-20-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	10	98.5 %	70-120	04/07/2017 15:19	04/07/2017 15:19							
Surr: 4-Bromofluorobenzene	10	97.6 %	75-120	04/07/2017 15:19	04/07/2017 15:19							
Surr: Dibromofluoromethane	10	93.0 %	80-119	04/07/2017 15:19	04/07/2017 15:19							
Surr: Toluene-d8	10	100 %	85-120	04/07/2017 15:19	04/07/2017 15:19							



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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17D0198-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	11	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:35	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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Client Sample ID: MW-1G

Laboratory Sample ID: 17D0198-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	11	630-20-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	11	71-55-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	11	79-34-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	11	79-00-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	11	75-34-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	4.71		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	11	75-35-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	11	96-18-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	11	95-50-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	11	107-06-2	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	11	78-87-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	11	106-46-7	SW8260B	04/07/2017 15:42	04/07/2017 15:42	1.59		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	11	78-93-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	11	591-78-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	11	108-10-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	11	67-64-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	11	107-13-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	11	71-43-2	SW8260B	04/07/2017 15:42	04/07/2017 15:42	1.28		0.20	1.00	1	ug/L	LAO
Bromochloromethane	11	74-97-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	11	75-27-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	11	75-25-2	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	11	74-83-9	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	11	75-15-0	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	11	56-23-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	11	108-90-7	SW8260B	04/07/2017 15:42	04/07/2017 15:42	0.48	J	0.10	1.00	1	ug/L	LAO



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17D0198-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-00-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	11	67-66-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	11	74-87-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	11	156-59-2	SW8260B	04/07/2017 15:42	04/07/2017 15:42	19.0		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	11	10061-01-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	11	124-48-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	11	74-95-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	11	75-71-8	SW8260B	04/07/2017 15:42	04/07/2017 15:42	0.33	J	0.20	1.00	1	ug/L	LAO
Ethylbenzene	11	100-41-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	11	74-88-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	11	179601-23-1	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	11	75-09-2	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	11	95-47-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	11	100-42-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	11	127-18-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	11	108-88-3	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	11	156-60-5	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	11	10061-02-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	11	110-57-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	11	79-01-6	SW8260B	04/07/2017 15:42	04/07/2017 15:42	3.45		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	11	75-69-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	11	108-05-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	11	75-01-4	SW8260B	04/07/2017 15:42	04/07/2017 15:42	5.65		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17D0198-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	11	1330-20-7	SW8260B	04/07/2017 15:42	04/07/2017 15:42	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	11	97.8 %	70-120	04/07/2017 15:42	04/07/2017 15:42							
Surr: 4-Bromofluorobenzene	11	98.5 %	75-120	04/07/2017 15:42	04/07/2017 15:42							
Surr: Dibromofluoromethane	11	93.3 %	80-119	04/07/2017 15:42	04/07/2017 15:42							
Surr: Toluene-d8	11	102 %	85-120	04/07/2017 15:42	04/07/2017 15:42							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17D0198-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	12	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:37	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17D0198-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	12	630-20-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	12	71-55-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	12	79-34-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	12	79-00-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	12	75-34-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	1.79		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	12	75-35-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	12	96-18-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	12	95-50-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	12	107-06-2	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	12	78-87-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	12	106-46-7	SW8260B	04/07/2017 16:06	04/07/2017 16:06	0.37	J	0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	12	78-93-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	12	591-78-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	12	108-10-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	12	67-64-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	12	107-13-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	12	71-43-2	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	12	74-97-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	12	75-27-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	12	75-25-2	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	12	74-83-9	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	12	75-15-0	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	12	56-23-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	12	108-90-7	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17D0198-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-00-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	12	67-66-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	12	74-87-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	12	156-59-2	SW8260B	04/07/2017 16:06	04/07/2017 16:06	6.82		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	12	10061-01-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	12	124-48-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	12	74-95-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	12	75-71-8	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	12	100-41-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	12	74-88-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	12	179601-23-1	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	12	75-09-2	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	12	95-47-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	12	100-42-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	12	127-18-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	12	108-88-3	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	12	156-60-5	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	12	10061-02-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	12	110-57-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	12	79-01-6	SW8260B	04/07/2017 16:06	04/07/2017 16:06	1.42		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	12	75-69-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	12	108-05-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	12	75-01-4	SW8260B	04/07/2017 16:06	04/07/2017 16:06	0.28	J	0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17D0198-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	12	1330-20-7	SW8260B	04/07/2017 16:06	04/07/2017 16:06	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	12	94.7 %	70-120	04/07/2017 16:06	04/07/2017 16:06							
Surr: 4-Bromofluorobenzene	12	98.9 %	75-120	04/07/2017 16:06	04/07/2017 16:06							
Surr: Dibromofluoromethane	12	91.9 %	80-119	04/07/2017 16:06	04/07/2017 16:06							
Surr: Toluene-d8	12	100 %	85-120	04/07/2017 16:06	04/07/2017 16:06							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1I

Laboratory Sample ID: 17D0198-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	13	7440-48-4	SW6010C	04/07/2017 14:00	04/10/2017 14:39	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-11

Laboratory Sample ID: 17D0198-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	13	630-20-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	13	71-55-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	13	79-34-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	13	79-00-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	13	75-34-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	13	75-35-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	13	96-18-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	13	95-50-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	13	107-06-2	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	13	78-87-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	13	106-46-7	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	13	78-93-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	13	591-78-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	13	108-10-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	13	67-64-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	13	107-13-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	13	71-43-2	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	13	74-97-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	13	75-27-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	13	75-25-2	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	13	74-83-9	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	13	75-15-0	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	13	56-23-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	13	108-90-7	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-11

Laboratory Sample ID: 17D0198-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	13	75-00-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	13	67-66-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	13	74-87-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	13	156-59-2	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	13	10061-01-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	13	124-48-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	13	74-95-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	13	75-71-8	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	13	100-41-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	13	74-88-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	13	179601-23-1	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	13	75-09-2	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	13	95-47-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	13	100-42-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	13	127-18-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	13	108-88-3	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	13	156-60-5	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	13	10061-02-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	13	110-57-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	13	79-01-6	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	13	75-69-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	13	108-05-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	13	75-01-4	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-1I

Laboratory Sample ID: 17D0198-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	13	1330-20-7	SW8260B	04/07/2017 16:30	04/07/2017 16:30	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	13	94.6 %	70-120	04/07/2017 16:30	04/07/2017 16:30							
Surr: 4-Bromofluorobenzene	13	98.0 %	75-120	04/07/2017 16:30	04/07/2017 16:30							
Surr: Dibromofluoromethane	13	89.3 %	80-119	04/07/2017 16:30	04/07/2017 16:30							
Surr: Toluene-d8	13	101 %	85-120	04/07/2017 16:30	04/07/2017 16:30							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	14	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:08	BLOD		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	14	630-20-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	14	71-55-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	14	79-34-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	14	79-00-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	14	75-34-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	14	75-35-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	14	96-18-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	14	95-50-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	14	107-06-2	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	14	78-87-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	14	106-46-7	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	14	78-93-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	14	591-78-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	14	108-10-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	14	67-64-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	14	107-13-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	14	71-43-2	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	14	74-97-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	14	75-27-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	14	75-25-2	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	14	74-83-9	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	14	75-15-0	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	14	56-23-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	14	108-90-7	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	14	75-00-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	14	67-66-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	14	74-87-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	14	156-59-2	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	14	10061-01-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	14	124-48-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	14	74-95-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	14	75-71-8	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	14	100-41-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	14	74-88-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	14	179601-23-1	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	14	75-09-2	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	14	95-47-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	14	100-42-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	14	127-18-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	14	108-88-3	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	14	156-60-5	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	14	10061-02-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	14	110-57-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	14	79-01-6	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	14	75-69-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	14	108-05-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	14	75-01-4	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	14	1330-20-7	SW8260B	04/07/2017 16:54	04/07/2017 16:54	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	14	97.1 %	70-120	04/07/2017 16:54	04/07/2017 16:54							
Surr: 4-Bromofluorobenzene	14	98.3 %	75-120	04/07/2017 16:54	04/07/2017 16:54							
Surr: Dibromofluoromethane	14	92.1 %	80-119	04/07/2017 16:54	04/07/2017 16:54							
Surr: Toluene-d8	14	101 %	85-120	04/07/2017 16:54	04/07/2017 16:54							



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Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	14	74-82-8	RSK175M	04/13/2017 11:30	04/13/2017 11:30	15.7		1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	14	96.9 %	70-130	04/13/2017 11:30	04/13/2017 11:30							



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Laboratory Sample ID: 17D0198-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	14	NA	SM22 2320B-2011	04/10/2017 09:30	04/10/2017 09:30	67.4		5.0	5.0	1	mg/L	CMB
Chloride	14	16887-00-6	EPA300.0 R2.1	04/10/2017 14:48	04/10/2017 14:48	26.1		2.5	5.0	5	mg/L	JSKL
Nitrate as N	14	14797-55-8	Calc.	04/11/2017 15:56	04/11/2017 15:56	6.60		0.15	0.55	1	mg/L	JCM
Nitrate+Nitrite as N	14RE1	NA	SM22 4500-NO3F- 2011	04/11/2017 15:56	04/11/2017 15:56	6.60		0.10	0.50	1	mg/L	JCM
Nitrite as N	14	14797-65-0	SM22 4500-NO2B- 2011	04/07/2017 10:00	04/07/2017 10:00	BLOD		0.05	0.05	1	mg/L	BBP
Sulfate	14	14808-79-8	EPA300.0 R2.1	04/10/2017 14:48	04/10/2017 14:48	12.5		2.5	5.0	5	mg/L	JSKL
Sulfide	14	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	15	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:16	BLOD		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	15	630-20-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	15	71-55-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	15	79-34-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	15	79-00-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	15	75-34-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	5.00		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	15	75-35-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	15	96-18-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	15	95-50-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	15	107-06-2	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	15	78-87-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	15	106-46-7	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	15	78-93-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	15	591-78-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	15	108-10-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	15	67-64-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	15	107-13-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	15	71-43-2	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	15	74-97-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	15	75-27-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	15	75-25-2	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	15	74-83-9	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	15	75-15-0	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	15	56-23-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	15	108-90-7	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-00-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	15	67-66-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	15	74-87-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	15	156-59-2	SW8260B	04/07/2017 17:18	04/07/2017 17:18	22.1		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	15	10061-01-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	15	124-48-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	15	74-95-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	15	75-71-8	SW8260B	04/07/2017 17:18	04/07/2017 17:18	1.88		0.20	1.00	1	ug/L	LAO
Ethylbenzene	15	100-41-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	15	74-88-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	15	179601-23-1	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	15	75-09-2	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	15	95-47-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	15	100-42-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	15	127-18-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	0.59	J	0.20	1.00	1	ug/L	LAO
Toluene	15	108-88-3	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	15	156-60-5	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	15	10061-02-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	15	110-57-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	15	79-01-6	SW8260B	04/07/2017 17:18	04/07/2017 17:18	13.3		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	15	75-69-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	15	108-05-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	15	75-01-4	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	15	1330-20-7	SW8260B	04/07/2017 17:18	04/07/2017 17:18	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	15	95.1 %	70-120	04/07/2017 17:18	04/07/2017 17:18							
Surr: 4-Bromofluorobenzene	15	99.2 %	75-120	04/07/2017 17:18	04/07/2017 17:18							
Surr: Dibromofluoromethane	15	88.2 %	80-119	04/07/2017 17:18	04/07/2017 17:18							
Surr: Toluene-d8	15	101 %	85-120	04/07/2017 17:18	04/07/2017 17:18							



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	15	74-82-8	RSK175M	04/13/2017 11:43	04/13/2017 11:43	365		1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	15	98.5 %	70-130	04/13/2017 11:43	04/13/2017 11:43							



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17D0198-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	15	NA	SM22 2320B-2011	04/10/2017 09:30	04/10/2017 09:30	150		5.0	5.0	1	mg/L	CMB
Chloride	15RE1	16887-00-6	EPA300.0 R2.1	04/10/2017 15:40	04/10/2017 15:40	65.7		5.0	10.0	10	mg/L	JSKL
Nitrate as N	15	14797-55-8	Calc.	04/11/2017 15:11	04/11/2017 15:11	BLOD		0.07	0.15	1	mg/L	BBP
Nitrate+Nitrite as N	15	NA	SM22 4500-NO3F- 2011	04/11/2017 15:11	04/11/2017 15:11	BLOD		0.02	0.10	1	mg/L	JCM
Nitrite as N	15	14797-65-0	SM22 4500-NO2B- 2011	04/07/2017 10:00	04/07/2017 10:00	BLOD		0.05	0.05	1	mg/L	BBP
Sulfate	15	14808-79-8	EPA300.0 R2.1	04/10/2017 15:14	04/10/2017 15:14	151		25.0	50.0	50	mg/L	JSKL
Sulfide	15	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17D0198-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	16	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:24	0.26		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17D0198-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	16	630-20-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	16	71-55-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
1,1,1,2-Tetrachloroethane	16	79-34-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	16	79-00-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	16	75-34-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	16	75-35-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	16	96-18-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	16	95-50-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	16	107-06-2	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	16	78-87-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	16	106-46-7	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	16	78-93-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	16	591-78-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	16	108-10-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	16	67-64-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	16	107-13-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	16	71-43-2	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	16	74-97-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	16	75-27-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	16	75-25-2	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	16	74-83-9	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	16	75-15-0	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	16	56-23-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	16	108-90-7	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17D0198-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	16	75-00-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	16	67-66-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	16	74-87-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	16	156-59-2	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.47	J	0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	16	10061-01-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	16	124-48-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	16	74-95-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	16	75-71-8	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.65	J	0.20	1.00	1	ug/L	LAO
Ethylbenzene	16	100-41-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	16	74-88-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	16	179601-23-1	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.30	J	0.20	2.00	1	ug/L	LAO
Methylene chloride	16	75-09-2	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	16	95-47-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	16	100-42-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	16	127-18-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.40	J	0.20	1.00	1	ug/L	LAO
Toluene	16	108-88-3	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	16	156-60-5	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	16	10061-02-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	16	110-57-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	16	79-01-6	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.38	J	0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	16	75-69-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	16	108-05-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	16	75-01-4	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.43	J	0.20	0.50	1	ug/L	LAO
Xylenes, Total	16	1330-20-7	SW8260B	04/07/2017 17:43	04/07/2017 17:43	0.30	J	0.30	3.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17D0198-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: 1,2-Dichloroethane-d4	16	98.4 %	70-120	04/07/2017 17:43	04/07/2017 17:43							
Surr: 4-Bromofluorobenzene	16	98.5 %	75-120	04/07/2017 17:43	04/07/2017 17:43							
Surr: Dibromofluoromethane	16	92.6 %	80-119	04/07/2017 17:43	04/07/2017 17:43							
Surr: Toluene-d8	16	100 %	85-120	04/07/2017 17:43	04/07/2017 17:43							
Head Space Analysis by GC												
Methane	16RE1	74-82-8	RSK175M	04/13/2017 14:07	04/13/2017 14:07	3480		5.6	25.0	5	ug/L	CL
Surr: Acetylene (Surr)	16RE1	86.7 %	70-130	04/13/2017 14:07	04/13/2017 14:07							
Wet Chemistry Analysis												
Alkalinity	16	NA	SM22 2320B-2011	04/10/2017 09:30	04/10/2017 09:30	30.0		5.0	5.0	1	mg/L	CMB
Chloride	16	16887-00-6	EPA300.0 R2.1	04/10/2017 16:07	04/10/2017 16:07	2.4		0.5	1.0	1	mg/L	JSKL
Nitrate as N	16	14797-55-8	Calc.	04/11/2017 15:14	04/11/2017 15:14	BLOD		0.07	0.15	1	mg/L	BBP
Nitrate+Nitrite as N	16	NA	SM22 4500-NO3F- 2011	04/11/2017 15:14	04/11/2017 15:14	BLOD		0.02	0.10	1	mg/L	JCM
Nitrite as N	16	14797-65-0	SM22 4500-NO2B- 2011	04/07/2017 10:00	04/07/2017 10:00	BLOD		0.05	0.05	1	mg/L	BBP
Sulfate	16	14808-79-8	EPA300.0 R2.1	04/10/2017 16:07	04/10/2017 16:07	BLOD		0.5	1.0	1	mg/L	JSKL
Sulfide	16	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17D0198-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	17	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:26	BLOD		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17D0198-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	17	630-20-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	17	71-55-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1,2,2-Tetrachloroethane	17	79-34-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	17	79-00-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	17	75-34-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	0.63	J	0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	17	75-35-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	17	96-18-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	17	95-50-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	17	107-06-2	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	17	78-87-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	17	106-46-7	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	17	78-93-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	17	591-78-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	17	108-10-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	17	67-64-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	17	107-13-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	17	71-43-2	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	17	74-97-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	17	75-27-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	17	75-25-2	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	17	74-83-9	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	17	75-15-0	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	17	56-23-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	17	108-90-7	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17D0198-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	17	75-00-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	17	67-66-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	17	74-87-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	17	156-59-2	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	17	10061-01-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	17	124-48-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	17	74-95-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	17	75-71-8	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	17	100-41-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	17	74-88-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	17	179601-23-1	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	17	75-09-2	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	17	95-47-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	17	100-42-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	17	127-18-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	17	108-88-3	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	17	156-60-5	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	17	10061-02-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	17	110-57-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	17	79-01-6	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	17	75-69-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	17	108-05-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	17	75-01-4	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17D0198-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	17	1330-20-7	SW8260B	04/07/2017 18:07	04/07/2017 18:07	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	17	96.2 %	70-120	04/07/2017 18:07	04/07/2017 18:07							
Surr: 4-Bromofluorobenzene	17	99.0 %	75-120	04/07/2017 18:07	04/07/2017 18:07							
Surr: Dibromofluoromethane	17	92.7 %	80-119	04/07/2017 18:07	04/07/2017 18:07							
Surr: Toluene-d8	17	100 %	85-120	04/07/2017 18:07	04/07/2017 18:07							
Head Space Analysis by GC												
Methane	17RE1	74-82-8	RSK175M	04/13/2017 13:54	04/13/2017 13:54	3.0	J	1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	17RE1	87.3 %	70-130	04/13/2017 13:54	04/13/2017 13:54							
Wet Chemistry Analysis												
Alkalinity	17	NA	SM22 2320B-2011	04/10/2017 09:30	04/10/2017 09:30	91.0		5.0	5.0	1	mg/L	CMB
Chloride	17RE1	16887-00-6	EPA300.0 R2.1	04/10/2017 16:59	04/10/2017 16:59	4.3		0.5	1.0	1	mg/L	JSKL
Nitrate as N	17	14797-55-8	Calc.	04/11/2017 15:17	04/11/2017 15:17	0.21		0.07	0.15	1	mg/L	BBP
Nitrate+Nitrite as N	17	NA	SM22 4500-NO3F- 2011	04/11/2017 15:17	04/11/2017 15:17	0.21		0.02	0.10	1	mg/L	JCM
Nitrite as N	17	14797-65-0	SM22 4500-NO2B- 2011	04/07/2017 10:00	04/07/2017 10:00	BLOD		0.05	0.05	1	mg/L	BBP
Sulfate	17	14808-79-8	EPA300.0 R2.1	04/10/2017 16:33	04/10/2017 16:33	54.6		5.0	10.0	10	mg/L	JSKL
Sulfide	17	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17D0198-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	18	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:28	BLOD		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17D0198-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	18	630-20-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	18	71-55-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1,1,2-Tetrachloroethane	18	79-34-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	18	79-00-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	18	75-34-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	18	75-35-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	18	96-18-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	18	95-50-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	18	107-06-2	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	18	78-87-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	18	106-46-7	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	18	78-93-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	18	591-78-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	18	108-10-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	18	67-64-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	18	107-13-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	18	71-43-2	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	18	74-97-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	18	75-27-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	18	75-25-2	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	18	74-83-9	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	18	75-15-0	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	18	56-23-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	18	108-90-7	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17D0198-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-00-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	18	67-66-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	18	74-87-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	18	156-59-2	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	18	10061-01-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	18	124-48-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	18	74-95-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	18	75-71-8	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	18	100-41-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	18	74-88-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	18	179601-23-1	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	18	75-09-2	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	18	95-47-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	18	100-42-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	18	127-18-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	18	108-88-3	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	18	156-60-5	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	18	10061-02-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	18	110-57-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	18	79-01-6	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	18	75-69-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	18	108-05-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	18	75-01-4	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17D0198-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	18	1330-20-7	SW8260B	04/07/2017 18:31	04/07/2017 18:31	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	18	101 %	70-120	04/07/2017 18:31	04/07/2017 18:31							
Surr: 4-Bromofluorobenzene	18	99.6 %	75-120	04/07/2017 18:31	04/07/2017 18:31							
Surr: Dibromofluoromethane	18	93.8 %	80-119	04/07/2017 18:31	04/07/2017 18:31							
Surr: Toluene-d8	18	102 %	85-120	04/07/2017 18:31	04/07/2017 18:31							



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Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17D0198-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	19	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 13:31	BLOD		0.20	0.20	1	ug/L	MWL



Certificate of Analysis

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Client Sample ID: CLF-S1

Laboratory Sample ID: 17D0198-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	19	630-20-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.10	0.40	1	ug/L	LAO
1,1,1-Trichloroethane	19	71-55-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
1,1,1,2-Tetrachloroethane	19	79-34-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	0.40	1	ug/L	LAO
1,1,2-Trichloroethane	19	79-00-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethane	19	75-34-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
1,1-Dichloroethylene	19	75-35-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
1,2,3-Trichloropropane	19	96-18-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.40	1.00	1	ug/L	LAO
1,2-Dichlorobenzene	19	95-50-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
1,2-Dichloroethane	19	107-06-2	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	1.00	1	ug/L	LAO
1,2-Dichloropropane	19	78-87-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	1.00	1	ug/L	LAO
1,4-Dichlorobenzene	19	106-46-7	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
2-Butanone (MEK)	19	78-93-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		4.00	5.00	1	ug/L	LAO
2-Hexanone (MBK)	19	591-78-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		4.00	5.00	1	ug/L	LAO
4-Methyl-2-pentanone (MIBK)	19	108-10-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		4.00	5.00	1	ug/L	LAO
Acetone	19	67-64-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		7.00	10.0	1	ug/L	LAO
Acrylonitrile	19	107-13-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		1.70	5.00	1	ug/L	LAO
Benzene	19	71-43-2	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Bromochloromethane	19	74-97-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.40	1.00	1	ug/L	LAO
Bromodichloromethane	19	75-27-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	0.50	1	ug/L	LAO
Bromoform	19	75-25-2	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	1.00	1	ug/L	LAO
Bromomethane	19	74-83-9	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Carbon disulfide	19	75-15-0	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		1.00	10.0	1	ug/L	LAO
Carbon tetrachloride	19	56-23-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Chlorobenzene	19	108-90-7	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.10	1.00	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17D0198-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	19	75-00-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Chloroform	19	67-66-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	0.50	1	ug/L	LAO
Chloromethane	19	74-87-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	1.00	1	ug/L	LAO
cis-1,2-Dichloroethylene	19	156-59-2	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
cis-1,3-Dichloropropene	19	10061-01-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Dibromochloromethane	19	124-48-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	0.50	1	ug/L	LAO
Dibromomethane	19	74-95-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	1.00	1	ug/L	LAO
Dichlorodifluoromethane	19	75-71-8	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Ethylbenzene	19	100-41-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.10	1.00	1	ug/L	LAO
Iodomethane	19	74-88-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		1.70	10.0	1	ug/L	LAO
m+p-Xylenes	19	179601-23-1	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	2.00	1	ug/L	LAO
Methylene chloride	19	75-09-2	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		1.00	4.00	1	ug/L	LAO
o-Xylene	19	95-47-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.10	1.00	1	ug/L	LAO
Styrene	19	100-42-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.10	1.00	1	ug/L	LAO
Tetrachloroethylene (PCE)	19	127-18-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Toluene	19	108-88-3	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,2-Dichloroethylene	19	156-60-5	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,3-Dichloropropene	19	10061-02-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
trans-1,4-Dichloro-2-butene	19	110-57-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		1.10	4.00	1	ug/L	LAO
Trichloroethylene	19	79-01-6	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Trichlorofluoromethane	19	75-69-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	1.00	1	ug/L	LAO
Vinyl acetate	19	108-05-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		2.20	10.0	1	ug/L	LAO
Vinyl chloride	19	75-01-4	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.20	0.50	1	ug/L	LAO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17D0198-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	19	1330-20-7	SW8260B	04/07/2017 18:56	04/07/2017 18:56	BLOD		0.30	3.00	1	ug/L	LAO
Surr: 1,2-Dichloroethane-d4	19	97.6 %	70-120	04/07/2017 18:56	04/07/2017 18:56							
Surr: 4-Bromofluorobenzene	19	98.0 %	75-120	04/07/2017 18:56	04/07/2017 18:56							
Surr: Dibromofluoromethane	19	92.0 %	80-119	04/07/2017 18:56	04/07/2017 18:56							
Surr: Toluene-d8	19	101 %	85-120	04/07/2017 18:56	04/07/2017 18:56							



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0168 - EPA200.2/R2.8										
Blank (BAD0168-BLK1)				Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	BLOD	4.0	ug/L							
LCS (BAD0168-BS1)				Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	498	4.0	ug/L	500		99.6	80-120			
LCS Dup (BAD0168-BSD1)				Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	488	4.0	ug/L	500		97.5	80-120	2.03	20	
Matrix Spike (BAD0168-MS1)				Source: 17D0198-02 Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	548	4.0	ug/L	500	40.5	101	75-125			
Matrix Spike (BAD0168-MS2)				Source: 17D0201-01 Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	491	4.0	ug/L	500	BLOD	98.2	75-125			
Matrix Spike Dup (BAD0168-MSD1)				Source: 17D0198-02 Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	541	4.0	ug/L	500	40.5	100	75-125	1.20	20	
Matrix Spike Dup (BAD0168-MSD2)				Source: 17D0201-01 Prepared: 04/07/2017 Analyzed: 04/10/2017						
Cobalt	491	4.0	ug/L	500	BLOD	98.3	75-125	0.0754	20	
Batch BAD0221 - SW7470A										
Blank (BAD0221-BLK1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	BLOD	0.20	ug/L							
LCS (BAD0221-BS1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.49	0.20	ug/L	2.50		99.8	80-120			



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0221 - SW7470A										
LCS Dup (BAD0221-BSD1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.53	0.20	ug/L	2.50		101	80-120	1.26	20	
Matrix Spike (BAD0221-MS1)				Source: 17D0198-15 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.25	0.20	ug/L	2.50	BLOD	90.1	80-120			
Matrix Spike (BAD0221-MS2)				Source: 17D0198-19 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.43	0.20	ug/L	2.50	BLOD	97.4	80-120			
Matrix Spike Dup (BAD0221-MSD1)				Source: 17D0198-15 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.15	0.20	ug/L	2.50	BLOD	85.9	80-120	4.71	20	
Matrix Spike Dup (BAD0221-MSD2)				Source: 17D0198-19 Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.44	0.20	ug/L	2.50	BLOD	97.8	80-120	0.381	20	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Blank (BAD0183-BLK1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,2,3-Trichloropropane	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2-Butanone (MEK)	BLOD	5.00	ug/L							
2-Hexanone (MBK)	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Benzene	BLOD	1.00	ug/L							
Bromochloromethane	BLOD	1.00	ug/L							
Bromodichloromethane	BLOD	0.50	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon disulfide	BLOD	10.0	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Blank (BAD0183-BLK1)

Prepared & Analyzed: 04/07/2017

Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Dichlorodifluoromethane	BLOD	1.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Iodomethane	BLOD	10.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
Naphthalene	BLOD	1.00	ug/L							
o-Xylene	BLOD	1.00	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>95.9</i>	<i>70-120</i>			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Blank (BAD0183-BLK1)

Prepared & Analyzed: 04/07/2017

Surr: 4-Bromofluorobenzene	49.0		ug/L	50.0		98.0	75-120
Surr: Dibromofluoromethane	46.3		ug/L	50.0		92.6	80-119
Surr: Toluene-d8	50.3		ug/L	50.0		101	85-120

LCS (BAD0183-BS1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	54.6	0.4	ug/L	50.0		109	80-130
1,1,1-Trichloroethane	48.7	1	ug/L	50.0		97.4	65-130
1,1,2,2-Tetrachloroethane	50.0	0.4	ug/L	50.0		100	65-130
1,1,2-Trichloroethane	51.6	1	ug/L	50.0		103	75-125
1,1-Dichloroethane	49.1	1	ug/L	50.0		98.2	70-135
1,1-Dichloroethylene	44.3	1	ug/L	50.0		88.6	70-130
1,2,3-Trichloropropane	52.5	1	ug/L	50.0		105	75-125
1,2-Dichlorobenzene	51.5	1	ug/L	50.0		103	70-120
1,2-Dichloroethane	45.8	1	ug/L	50.0		91.5	70-130
1,2-Dichloropropane	50.2	1	ug/L	50.0		100	75-125
1,4-Dichlorobenzene	50.4	1	ug/L	50.0		101	75-125
2-Butanone (MEK)	49.9	5	ug/L	50.0		99.9	30-150
2-Hexanone (MBK)	54.0	5	ug/L	50.0		108	55-130
4-Methyl-2-pentanone (MIBK)	47.3	5	ug/L	50.0		94.6	60-135
Acetone	52.1	10	ug/L	50.0		104	40-140
Acrylonitrile	249	5	ug/L	250		99.5	70-130
Benzene	51.1	1	ug/L	50.0		102	80-120
Bromochloromethane	50.7	1	ug/L	50.0		101	65-130
Bromodichloromethane	55.2	0.5	ug/L	50.0		110	75-120
Bromoform	55.9	1	ug/L	50.0		112	70-130



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

LCS (BAD0183-BS1)

Prepared & Analyzed: 04/07/2017

Bromomethane	59.0	1	ug/L	50.0		118	30-145			
Carbon disulfide	70.9	10	ug/L	50.0		142	35-160			
Carbon tetrachloride	52.5	1	ug/L	50.0		105	65-140			
Chlorobenzene	51.8	1	ug/L	50.0		104	80-120			
Chloroethane	49.2	1	ug/L	50.0		98.4	60-135			
Chloroform	46.1	0.5	ug/L	50.0		92.3	65-135			
Chloromethane	47.4	1	ug/L	50.0		94.9	40-125			
cis-1,2-Dichloroethylene	45.5	1	ug/L	50.0		90.9	70-125			
cis-1,3-Dichloropropene	47.6	1	ug/L	50.0		95.3	70-130			
Dibromochloromethane	46.6	0.5	ug/L	50.0		93.2	60-135			
Dibromomethane	52.2	1	ug/L	50.0		104	75-125			
Dichlorodifluoromethane	61.5	1	ug/L	50.0		123	30-155			
Ethylbenzene	53.6	1	ug/L	50.0		107	75-125			
m+p-Xylenes	107	2	ug/L	100		107	75-130			
Methylene chloride	46.8	4	ug/L	50.0		93.6	55-140			
Naphthalene	53.7	1	ug/L	50.0		107	55-140			
o-Xylene	52.9	1	ug/L	50.0		106	80-120			
Styrene	54.3	1	ug/L	50.0		109	65-135			
Tetrachloroethylene (PCE)	78.8	1	ug/L	50.0		158	45-150			L
Toluene	51.9	1	ug/L	50.0		104	75-120			
trans-1,2-Dichloroethylene	49.3	1	ug/L	50.0		98.7	60-140			
trans-1,3-Dichloropropene	51.6	1	ug/L	50.0		103	55-140			
Trichloroethylene	50.9	1	ug/L	50.0		102	70-125			
Trichlorofluoromethane	49.2	1	ug/L	50.0		98.4	60-145			
Vinyl chloride	51.1	0.5	ug/L	50.0		102	50-145			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

LCS (BAD0183-BS1)

Prepared & Analyzed: 04/07/2017

<i>Surr: 1,2-Dichloroethane-d4</i>	45.1		ug/L	50.0		90.2	70-120
<i>Surr: 4-Bromofluorobenzene</i>	49.5		ug/L	50.0		99.1	75-120
<i>Surr: Dibromofluoromethane</i>	45.8		ug/L	50.0		91.6	80-119
<i>Surr: Toluene-d8</i>	49.5		ug/L	50.0		99.0	85-120

Duplicate (BAD0183-DUP1)

Source: 17D0217-01

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD		NA	30
1,1,1-Trichloroethane	BLOD	5.00	ug/L		BLOD		NA	30
1,1,2,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD		NA	30
1,1,2-Trichloroethane	BLOD	5.00	ug/L		BLOD		NA	30
1,1-Dichloroethane	BLOD	5.00	ug/L		BLOD		NA	30
1,1-Dichloroethylene	BLOD	5.00	ug/L		BLOD		NA	30
1,2,3-Trichloropropane	BLOD	5.00	ug/L		BLOD		NA	30
1,2-Dichlorobenzene	BLOD	5.00	ug/L		BLOD		NA	30
1,2-Dichloroethane	BLOD	5.00	ug/L		BLOD		NA	30
1,2-Dichloropropane	BLOD	5.00	ug/L		BLOD		NA	30
1,4-Dichlorobenzene	BLOD	5.00	ug/L		BLOD		NA	30
2-Butanone (MEK)	BLOD	25.0	ug/L		BLOD		NA	30
2-Hexanone (MBK)	BLOD	25.0	ug/L		BLOD		NA	30
4-Methyl-2-pentanone (MIBK)	BLOD	25.0	ug/L		BLOD		NA	30
Acetone	BLOD	50.0	ug/L		BLOD		NA	30
Acrylonitrile	BLOD	25.0	ug/L		BLOD		NA	30
Benzene	BLOD	5.00	ug/L		BLOD		NA	30
Bromochloromethane	BLOD	5.00	ug/L		BLOD		NA	30
Bromodichloromethane	BLOD	2.50	ug/L		BLOD		NA	30



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Duplicate (BAD0183-DUP1)	Source: 17D0217-01			Prepared & Analyzed: 04/07/2017						
Bromoform	BLOD	5.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	50.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	5.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
Chloroform	BLOD	2.50	ug/L		BLOD			NA	30	
Chloromethane	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	2.50	ug/L		BLOD			NA	30	
Dibromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	5.00	ug/L		BLOD			NA	30	
Iodomethane	BLOD	50.0	ug/L		BLOD			NA	30	
m+p-Xylenes	BLOD	10.0	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	20.0	ug/L		BLOD			NA	30	
Naphthalene	BLOD	5.00	ug/L		BLOD			NA	30	
o-Xylene	BLOD	5.00	ug/L		BLOD			NA	30	
Styrene	BLOD	5.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	5.00	ug/L		BLOD			NA	30	
Toluene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	20.0	ug/L		BLOD			NA	30	



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Duplicate (BAD0183-DUP1)		Source: 17D0217-01			Prepared & Analyzed: 04/07/2017					
Trichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	50.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	2.50	ug/L		BLOD			NA	30	
Xylenes, Total	BLOD	15.0	ug/L		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.0</i>		ug/L	<i>50.0</i>		<i>94.1</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.8</i>		ug/L	<i>50.0</i>		<i>97.7</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>46.1</i>		ug/L	<i>50.0</i>		<i>92.2</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>50.5</i>		ug/L	<i>50.0</i>		<i>101</i>	<i>85-120</i>			

Matrix Spike (BAD0183-MS1)		Source: 17D0228-03			Prepared & Analyzed: 04/07/2017					
1,1,1,2-Tetrachloroethane	49.0	0.4	ug/L	50.0	BLOD	98.0	80-130			
1,1,1-Trichloroethane	47.6	1	ug/L	50.0	BLOD	95.2	65-130			
1,1,2,2-Tetrachloroethane	48.6	0.4	ug/L	50.0	BLOD	97.2	65-130			
1,1,2-Trichloroethane	47.6	1	ug/L	50.0	BLOD	95.1	75-125			
1,1-Dichloroethane	45.9	1	ug/L	50.0	BLOD	91.9	70-135			
1,1-Dichloroethylene	45.3	1	ug/L	50.0	BLOD	90.6	70-130			
1,2,3-Trichloropropane	50.6	1	ug/L	50.0	BLOD	101	75-125			
1,2-Dichlorobenzene	45.2	1	ug/L	50.0	BLOD	90.4	70-120			
1,2-Dichloroethane	41.8	1	ug/L	50.0	BLOD	83.6	70-130			
1,2-Dichloropropane	46.3	1	ug/L	50.0	BLOD	92.6	75-125			
1,4-Dichlorobenzene	44.8	1	ug/L	50.0	0.57	88.5	75-125			
2-Butanone (MEK)	52.7	5	ug/L	50.0	BLOD	105	30-150			
2-Hexanone (MBK)	55.1	5	ug/L	50.0	BLOD	110	55-130			
4-Methyl-2-pentanone (MIBK)	49.8	5	ug/L	50.0	BLOD	99.6	60-135			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Matrix Spike (BAD0183-MS1)	Source: 17D0228-03			Prepared & Analyzed: 04/07/2017						
Acetone	47.6	10	ug/L	50.0	BLOD	95.3	40-140			
Acrylonitrile	260	5	ug/L	250	BLOD	104	70-130			
Benzene	47.8	1	ug/L	50.0	BLOD	95.5	80-120			
Bromochloromethane	45.3	1	ug/L	50.0	BLOD	90.5	65-130			
Bromodichloromethane	49.2	0.5	ug/L	50.0	BLOD	98.5	75-120			
Bromoform	51.2	1	ug/L	50.0	BLOD	102	70-130			
Bromomethane	43.9	1	ug/L	50.0	BLOD	87.7	30-145			
Carbon disulfide	48.9	10	ug/L	50.0	BLOD	97.9	35-160			
Carbon tetrachloride	52.3	1	ug/L	50.0	BLOD	105	65-140			
Chlorobenzene	48.3	1	ug/L	50.0	0.84	94.8	80-120			
Chloroethane	48.2	1	ug/L	50.0	BLOD	96.4	60-135			
Chloroform	42.9	0.5	ug/L	50.0	BLOD	85.9	65-135			
Chloromethane	46.0	1	ug/L	50.0	BLOD	92.0	40-125			
cis-1,2-Dichloroethylene	43.6	1	ug/L	50.0	BLOD	87.2	70-125			
cis-1,3-Dichloropropene	42.3	1	ug/L	50.0	BLOD	84.6	70-130			
Dibromochloromethane	42.0	0.5	ug/L	50.0	BLOD	84.1	60-135			
Dibromomethane	48.0	1	ug/L	50.0	BLOD	96.0	75-125			
Dichlorodifluoromethane	62.1	1	ug/L	50.0	BLOD	124	30-155			
Ethylbenzene	49.8	1	ug/L	50.0	BLOD	99.6	75-125			
m+p-Xylenes	98.7	2	ug/L	100	BLOD	98.7	75-130			
Methylene chloride	43.2	4	ug/L	50.0	BLOD	86.5	55-140			
Naphthalene	48.7	1	ug/L	50.0	BLOD	97.4	55-140			
o-Xylene	48.0	1	ug/L	50.0	BLOD	96.0	80-120			
Styrene	48.9	1	ug/L	50.0	BLOD	97.9	65-135			
Tetrachloroethylene (PCE)	73.7	1	ug/L	50.0	BLOD	147	45-150			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Matrix Spike (BAD0183-MS1)		Source: 17D0228-03			Prepared & Analyzed: 04/07/2017					
Toluene	48.3	1	ug/L	50.0	BLOD	96.7	75-120			
trans-1,2-Dichloroethylene	43.7	1	ug/L	50.0	BLOD	87.5	60-140			
trans-1,3-Dichloropropene	45.9	1	ug/L	50.0	BLOD	91.7	55-140			
Trichloroethylene	48.8	1	ug/L	50.0	BLOD	97.6	70-125			
Trichlorofluoromethane	50.8	1	ug/L	50.0	BLOD	102	60-145			
Vinyl chloride	51.9	0.5	ug/L	50.0	BLOD	104	50-145			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.1</i>		ug/L	<i>50.0</i>		<i>90.3</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.5</i>		ug/L	<i>50.0</i>		<i>101</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>44.5</i>		ug/L	<i>50.0</i>		<i>88.9</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>49.1</i>		ug/L	<i>50.0</i>		<i>98.1</i>	<i>85-120</i>			
Matrix Spike Dup (BAD0183-MSD1)		Source: 17D0228-03			Prepared & Analyzed: 04/07/2017					
1,1,1,2-Tetrachloroethane	52.7	0.4	ug/L	50.0	BLOD	105	80-130	7.25	30	
1,1,1-Trichloroethane	52.4	1	ug/L	50.0	BLOD	105	65-130	9.56	30	
1,1,2,2-Tetrachloroethane	49.6	0.4	ug/L	50.0	BLOD	99.2	65-130	1.99	30	
1,1,2-Trichloroethane	50.9	1	ug/L	50.0	BLOD	102	75-125	6.72	30	
1,1-Dichloroethane	49.9	1	ug/L	50.0	BLOD	99.8	70-135	8.26	30	
1,1-Dichloroethylene	50.9	1	ug/L	50.0	BLOD	102	70-130	11.7	30	
1,2,3-Trichloropropane	52.6	1	ug/L	50.0	BLOD	105	75-125	3.85	30	
1,2-Dichlorobenzene	48.8	1	ug/L	50.0	BLOD	97.5	70-120	7.55	30	
1,2-Dichloroethane	45.1	1	ug/L	50.0	BLOD	90.2	70-130	7.53	30	
1,2-Dichloropropane	50.7	1	ug/L	50.0	BLOD	101	75-125	9.08	30	
1,4-Dichlorobenzene	48.8	1	ug/L	50.0	0.57	96.5	75-125	8.51	30	
2-Butanone (MEK)	49.3	5	ug/L	50.0	BLOD	98.7	30-150	6.57	30	
2-Hexanone (MBK)	55.0	5	ug/L	50.0	BLOD	110	55-130	0.178	30	



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Matrix Spike Dup (BAD0183-MSD1)	Source: 17D0228-03			Prepared & Analyzed: 04/07/2017						
4-Methyl-2-pentanone (MIBK)	50.3	5	ug/L	50.0	BLOD	101	60-135	0.966	30	
Acetone	49.0	10	ug/L	50.0	BLOD	98.1	40-140	2.88	30	
Acrylonitrile	254	5	ug/L	250	BLOD	101	70-130	2.65	30	
Benzene	51.5	1	ug/L	50.0	BLOD	103	80-120	7.48	30	
Bromochloromethane	50.9	1	ug/L	50.0	BLOD	102	65-130	11.8	30	
Bromodichloromethane	53.9	0.5	ug/L	50.0	BLOD	108	75-120	8.99	30	
Bromoform	52.6	1	ug/L	50.0	BLOD	105	70-130	2.80	30	
Bromomethane	57.0	1	ug/L	50.0	BLOD	114	30-145	26.0	30	
Carbon disulfide	49.7	10	ug/L	50.0	BLOD	99.3	35-160	1.50	30	
Carbon tetrachloride	56.9	1	ug/L	50.0	BLOD	114	65-140	8.35	30	
Chlorobenzene	51.8	1	ug/L	50.0	0.84	102	80-120	7.16	30	
Chloroethane	53.6	1	ug/L	50.0	BLOD	107	60-135	10.5	30	
Chloroform	46.6	0.5	ug/L	50.0	BLOD	93.1	65-135	8.12	30	
Chloromethane	49.3	1	ug/L	50.0	BLOD	98.6	40-125	6.87	30	
cis-1,2-Dichloroethylene	47.9	1	ug/L	50.0	BLOD	95.9	70-125	9.54	30	
cis-1,3-Dichloropropene	44.9	1	ug/L	50.0	BLOD	89.8	70-130	5.92	30	
Dibromochloromethane	45.2	0.5	ug/L	50.0	BLOD	90.4	60-135	7.20	30	
Dibromomethane	50.8	1	ug/L	50.0	BLOD	102	75-125	5.78	30	
Dichlorodifluoromethane	66.9	1	ug/L	50.0	BLOD	134	30-155	7.49	30	
Ethylbenzene	53.8	1	ug/L	50.0	BLOD	108	75-125	7.70	30	
m+p-Xylenes	107	2	ug/L	100	BLOD	107	75-130	8.04	30	
Methylene chloride	46.6	4	ug/L	50.0	BLOD	93.2	55-140	7.50	30	
Naphthalene	51.5	1	ug/L	50.0	BLOD	103	55-140	5.54	30	
o-Xylene	51.8	1	ug/L	50.0	BLOD	104	80-120	7.66	30	
Styrene	52.4	1	ug/L	50.0	BLOD	105	65-135	6.85	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0183 - SW5030B

Matrix Spike Dup (BAD0183-MSD1)	Source: 17D0228-03			Prepared & Analyzed: 04/07/2017						
Tetrachloroethylene (PCE)	79.8	1	ug/L	50.0	BLOD	160	45-150	7.97	30	M
Toluene	52.2	1	ug/L	50.0	BLOD	104	75-120	7.62	30	
trans-1,2-Dichloroethylene	48.6	1	ug/L	50.0	BLOD	97.1	60-140	10.5	30	
trans-1,3-Dichloropropene	48.8	1	ug/L	50.0	BLOD	97.6	55-140	6.18	30	
Trichloroethylene	52.2	1	ug/L	50.0	BLOD	104	70-125	6.77	30	
Trichlorofluoromethane	55.7	1	ug/L	50.0	BLOD	111	60-145	9.35	30	
Vinyl chloride	57.3	0.5	ug/L	50.0	BLOD	115	50-145	9.86	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>92.0</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>101</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>45.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>91.6</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>48.9</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.8</i>	<i>85-120</i>			



Certificate of Analysis

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Head Space Analysis by GC - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0306 - No Prep VOC										
Blank (BAD0306-BLK1)										
				Prepared & Analyzed: 04/13/2017						
Methane	BLOD	5.0	ug/L							
<i>Surr: Acetylene (Surr)</i>	382		ug/L	432		88.5	70-130			
LCS (BAD0306-BS1)										
				Prepared & Analyzed: 04/13/2017						
Methane	254	5.0	ug/L	266		95.3	70-130			
<i>Surr: Acetylene (Surr)</i>	401		ug/L	432		92.7	70-130			
Matrix Spike (BAD0306-MS1)										
				Source: 17D0198-14		Prepared & Analyzed: 04/13/2017				
Methane	271	5.0	ug/L	266	15.7	95.8	70-130			
<i>Surr: Acetylene (Surr)</i>	391		ug/L	432		90.5	70-130			
Matrix Spike Dup (BAD0306-MSD1)										
				Source: 17D0198-14		Prepared & Analyzed: 04/13/2017				
Methane	305	5.0	ug/L	266	15.7	109	70-130	12.0	20	
<i>Surr: Acetylene (Surr)</i>	453		ug/L	432		105	70-130			



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0138 - No Prep Wet Chem										
Blank (BAD0138-BLK1)				Prepared & Analyzed: 04/07/2017						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BAD0138-BS1)				Prepared & Analyzed: 04/07/2017						
Nitrite as N	0.10	0.05	mg/L	0.100		95.0	80-120			
Matrix Spike (BAD0138-MS1)				Source: 17D0198-17		Prepared & Analyzed: 04/07/2017				
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	93.0	80-120			
Matrix Spike Dup (BAD0138-MSD1)				Source: 17D0198-17		Prepared & Analyzed: 04/07/2017				
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	94.0	80-120	1.07	20	
Batch BAD0196 - No Prep Wet Chem										
Blank (BAD0196-BLK1)				Prepared & Analyzed: 04/10/2017						
Alkalinity	BLOD	5.0	mg/L							
LCS (BAD0196-BS1)				Prepared & Analyzed: 04/10/2017						
Alkalinity	52.8	5.0	mg/L	50.0		106	80-120			
LCS Dup (BAD0196-BSD1)				Prepared & Analyzed: 04/10/2017						
Alkalinity	52.4	5.0	mg/L	50.0		105	80-120	0.760	20	
Matrix Spike (BAD0196-MS1)				Source: 17D0198-16		Prepared & Analyzed: 04/10/2017				
Alkalinity	82.0	5.0	mg/L	50.0	30.0	104	75-125			
Matrix Spike Dup (BAD0196-MSD1)				Source: 17D0198-16		Prepared & Analyzed: 04/10/2017				
Alkalinity	82.0	5.0	mg/L	50.0	30.0	104	75-125	0.00	20	



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0229 - No Prep IC										
Blank (BAD0229-BLK1)				Prepared & Analyzed: 04/10/2017						
Sulfate	BLOD	1.0	mg/L							
Chloride	BLOD	1.0	mg/L							
LCS (BAD0229-BS1)				Prepared & Analyzed: 04/10/2017						
Sulfate	5.1	1	mg/L	5.00		101	90-110			
Chloride	4.9	1	mg/L	5.00		97.1	90-110			
LCS Dup (BAD0229-BSD1)				Prepared & Analyzed: 04/10/2017						
Chloride	4.9	1	mg/L	5.00		97.0	90-110	0.0412	15	
Sulfate	5.1	1	mg/L	5.00		102	90-110	0.827	15	
Matrix Spike (BAD0229-MS1)				Source: 17D0033-01RE1			Prepared & Analyzed: 04/10/2017			
Chloride	11.0	1	mg/L	5.00	6.6	86.7	90-110			M
Sulfate	5.1	1	mg/L	5.00	BLOD	94.6	90-110			
Matrix Spike (BAD0229-MS2)				Source: 17D0033-01			Prepared & Analyzed: 04/10/2017			
Sulfate	6.2	1	mg/L	5.00	1.6	90.8	90-110			
Matrix Spike Dup (BAD0229-MSD1)				Source: 17D0033-01RE1			Prepared & Analyzed: 04/10/2017			
Chloride	10.9	1	mg/L	5.00	6.6	85.3	90-110		15	M
Sulfate	5.1	1	mg/L	5.00	BLOD	94.9	90-110		15	
Batch BAD0234 - No Prep Wet Chem										
Blank (BAD0234-BLK1)				Prepared & Analyzed: 04/11/2017						
Sulfide	BLOD	1.00	mg/L							



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0234 - No Prep Wet Chem										
LCS (BAD0234-BS1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.55	1	mg/L	5.00		91.0	80-120			
LCS Dup (BAD0234-BSD1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.69	1	mg/L	5.00		93.8	80-120	3.03	20	
Matrix Spike (BAD0234-MS1)				Source: 17D0167-11		Prepared & Analyzed: 04/11/2017				
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125			
Matrix Spike (BAD0234-MS2)				Source: 17D0225-01		Prepared & Analyzed: 04/11/2017				
Sulfide	4.77	1.00	mg/L	5.00	BLOD	95.4	75-125			
Matrix Spike Dup (BAD0234-MSD1)				Source: 17D0167-11		Prepared & Analyzed: 04/11/2017				
Sulfide	5.10	1.00	mg/L	5.00	BLOD	102	75-125	4.00	20	
Matrix Spike Dup (BAD0234-MSD2)				Source: 17D0225-01		Prepared & Analyzed: 04/11/2017				
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125	2.69	20	
Batch BAD0246 - No Prep Wet Chem										
Blank (BAD0246-BLK1)				Prepared & Analyzed: 04/11/2017						
Nitrate+Nitrite as N	BLOD	0.10	mg/L							
LCS (BAD0246-BS1)				Prepared & Analyzed: 04/11/2017						
Nitrate+Nitrite as N	2.58	0.1	mg/L	2.50		103	90-110			
Matrix Spike (BAD0246-MS1)				Source: 17D0179-01		Prepared & Analyzed: 04/11/2017				
Nitrate+Nitrite as N	2.76	0.10	mg/L	2.50	BLOD	110	90-110			M



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/20/2017 2:55:06PM

Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0246 - No Prep Wet Chem										
Matrix Spike Dup (BAD0246-MSD1)		Source: 17D0179-01			Prepared & Analyzed: 04/11/2017					
Nitrate+Nitrite as N	2.75	0.10	mg/L	2.50	BLOD	110	90-110	0.182	20	M
Batch BAD0247 - No Prep Wet Chem										
Blank (BAD0247-BLK1)		Prepared & Analyzed: 04/11/2017								
Nitrate+Nitrite as N	BLOD	0.10	mg/L							
LCS (BAD0247-BS1)		Prepared & Analyzed: 04/11/2017								
Nitrate+Nitrite as N	2.60	0.1	mg/L	2.50		104	90-110			
Matrix Spike (BAD0247-MS1)		Source: 17D0201-11			Prepared & Analyzed: 04/11/2017					
Nitrate+Nitrite as N	2.87	0.10	mg/L	2.50	0.19	107	90-110			
Matrix Spike Dup (BAD0247-MSD1)		Source: 17D0201-11			Prepared & Analyzed: 04/11/2017					
Nitrate+Nitrite as N	2.88	0.10	mg/L	2.50	0.19	108	90-110	0.452	20	



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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method:	EPA200.2/R2.8	
17D0198-02	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-03	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-04	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-05	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-06	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-07	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-08	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-09	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-10	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-11	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-12	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031
17D0198-13	50.0 mL / 50.0 mL	SW6010C	BAD0168	SAD0195	AD70031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep IC	
17D0198-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-14	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-15	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-15RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-16	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-17	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032
17D0198-17RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAD0229	SAD0217	AD70032

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	No Prep VOC	



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	No Prep VOC	
17D0198-01	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-14	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-15	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-16	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-16RE1	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-17	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081
17D0198-17RE1	5.00 mL / 5.00 mL	RSK175M	BAD0306	SAD0312	AB70081

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
17D0198-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAD0138	SAD0152	AA70081
17D0198-14	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAD0138	SAD0152	AA70081
17D0198-15	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAD0138	SAD0152	AA70081
17D0198-16	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAD0138	SAD0152	AA70081
17D0198-17	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAD0138	SAD0152	AA70081
17D0198-01	100 mL / 100 mL	SM22 2320B-2011	BAD0196	SAD0183	
17D0198-14	50.0 mL / 50.0 mL	SM22 2320B-2011	BAD0196	SAD0183	
17D0198-15	50.0 mL / 50.0 mL	SM22 2320B-2011	BAD0196	SAD0183	
17D0198-16	50.0 mL / 50.0 mL	SM22 2320B-2011	BAD0196	SAD0183	
17D0198-17	50.0 mL / 50.0 mL	SM22 2320B-2011	BAD0196	SAD0183	
17D0198-14	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0198-15	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0198-16	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0198-17	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0198-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0246	SAD0248	AD70045
17D0198-14	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0247	SAD0248	AD70045
17D0198-14RE1	1.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0247	SAD0248	AD70045
17D0198-15	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0247	SAD0248	AD70045



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis		Preparation Method: No Prep Wet Chem			
17D0198-16	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0247	SAD0248	AD70045
17D0198-17	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAD0247	SAD0248	AD70045

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS		Preparation Method: SW5030B			
17D0198-02	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-03	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-04	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-05	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-06	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-07	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-08	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-09	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-10	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-11	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-12	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-13	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-14	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-15	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-16	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-17	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-18	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020
17D0198-19	5.00 mL / 5.00 mL	SW8260B	BAD0183	SAD0197	AD70020

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods		Preparation Method: SW7470A			
17D0198-14	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047
17D0198-15	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17D0198-16	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047
17D0198-17	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047
17D0198-18	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047
17D0198-19	20.0 mL / 20.0 mL	SW7470A	BAD0221	SAD0253	AD70047



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Certified Analyses included in this Report

Analyte	Certifications
<i>EPA300.0 R2.1 in Non-Potable Water</i>	
Chloride	VELAP,NC,WVDEP
Sulfate	VELAP,NC,WVDEP
<i>RSK175M in Non-Potable Water</i>	
Methane	VELAP
<i>SM22 2320B-2011 in Non-Potable Water</i>	
Alkalinity	VELAP,WVDEP
<i>SM22 4500-NO2B-2011 in Non-Potable Water</i>	
Nitrite as N	VELAP,WVDEP
<i>SM22 4500-NO3F-2011 in Non-Potable Water</i>	
Nitrate+Nitrite as N	VELAP,WVDEP
<i>SW6010C in Non-Potable Water</i>	
Cobalt	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8260B in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP



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<u>Analyte</u>	<u>Certifications</u>
1,2-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
o-Xylene	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #9035	460021	06/15/2017
WVDEP	West Virginia DEP	350	11/30/2017



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Qualifiers and Definitions

- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLOD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: Joyce Engineering, Inc.		INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: LVCSLF Corrective Action Well
CONTACT: Jake White		INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpeper)
ADDRESS: 1604 Owenby Lane, Richmond, VA 23220		INVOICE ADDRESS: 118 West Davis Street, Suite 101, Culpeper, VA 22701	PROJECT NUMBER: Job No. 318, 1001.00.02 (CA)
PHONE #: (804) 358-8295		INVOICE PHONE #: (540) 727-3808	P.O. #:
FAX #: (804) 358-4382	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:	

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Anderson* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe DT=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS
											3,1A VOC's-8260 + dichlorodifluoromethane (HCL)	Naphthalene-8260 (HCL)	Cobalt (HNO3)	Mercury (HNO3)	Nitrate (as) (H2SO4)	Alkalinity / Chloride / NO2 (as) (HCL)	Methane (HCL) <i>Sulfide</i>	Sulfide (NaOH + ZnAg)		Preservative Codes: W=Water, C=Chloroform, A=Acid, S=Sulfide, H=Hydroxide, A=Ascorbic Acid, Z=Zinc Acetate, T=Total, Tr=Tricloroethylene
1) MW-20	X					4/5/17	12:05		GW	3	X	X	X	X	X	X	X		
2) MW-6	X					4/5/17	12:14			3	X	X	X	X	X	X	X		
3) MW-X-1	X						12:05			3	X	X	X	X	X	X	X		
4) CLF-1	X						12:05			3	X	X	X	X	X	X	X		
5) MW-3	X						12:05			3	X	X	X	X	X	X	X		
6) MW-5	X						12:05			3	X	X	X	X	X	X	X		
7) MW-1C	X						12:05			3	X	X	X	X	X	X	X		
8) MW-1D	X						12:05			3	X	X	X	X	X	X	X	No Seal On Ice	
9) MW-1E	X						12:05			3	X	X	X	X	X	X	X		
10) MW-2F	X						12:05			3	X	X	X	X	X	X	X		

<p>QC Data Package</p> <p>Level I <input type="checkbox"/></p> <p>Level II <input checked="" type="checkbox"/></p> <p>Level III <input type="checkbox"/></p> <p>Level IV <input type="checkbox"/></p>	<p>LAB USE ONLY</p> <p>COOLER TEMP <u>5.1</u> °C</p> <p>JEI-R 17D0198</p> <p>Laurel Valley Corrective Action We</p> <p>Recd: 04/06/2017 Due: 04/20/2017</p>
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CHAIN OF CUSTODY

COMPANY NAME: Joyce Engineering, Inc.		INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: LVCSLF Corrective Action We
CONTACT: Jake White		INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpeper)
ADDRESS: 1604 Owenby Lane, Richmond, VA 23226		INVOICE ADDRESS: 111 West 2nd Street, Suite 101, Culpeper, VA 22701	PROJECT NUMBER: Job No. 310.0601.03/02 (CA)
PHONE #: (804) 358-8295		INVOICE PHONE #: (540) 727-2998	P. O. #:
FAX #: (804) 355-4282	EMAIL: jwhite@joyceengineering.com		Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Anderson* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Day(s)

Matrix Codes: W-Water/Storm Water G-Water/Ground Water DW-Drinking Water S-Solid/Solids OR-Organic A-Air WP-Wipe OT-Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS	
											3,1-A VOC's-8260 + dichlorofluoromethane (HCL)	Naphthalene-8260 (HCL)	Cobalt (HNO3)	Mercury (HNO3)	Nitrate (cd) (H2SO4)	Alkalinity / Chloride / NO2 (Cd/Cd)	Methane (HCL) S. / In. Hg	Sulfide (NaOH + ZnAc)		Preservative Codes: W/Water, G/Groundwater, DW/Drinking Water, S/Solids, OR/Organic, A/Air, WP/Wipe, OT/Other
1) NW-16	X					4/6/17	1715		S	1	X									
2) NW-1A	X					4/6/17	0730			1	X									
3) NW-1I	X					4/5/17	1725			1	X									
4) NW-X-2	X					4/6/17	0930			1	X									
5) CLF-15A	X					4/6/17	0710			1	X									
6) PZ-4E	X					4/6/17	0710			1	X									
7) CLF-53	X					4/6/17	0715			1	X									
8) NW-X-2D	X					4/6/17	0930			1	X									
9) CLF-51	X					4/6/17	0800			1	X								No Soil	
10)																			On file	

RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 4/6/17 1545	RECEIVED: <i>[Signature]</i>	DATE / TIME: 4/6/17 1345	QC Data Package	LAB USE ONLY	COOLER TEMP: 5.1 °C
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 4/6/17 1500	RECEIVED: <i>[Signature]</i>	DATE / TIME: 4/6/17 1570	Level I: <input type="checkbox"/>	JEL-R	17D0198
RELINQUISHED: <i>[Signature]</i>	DATE / TIME: 4/6/17 16 01	RECEIVED: <i>[Signature]</i>	DATE / TIME: 4/6/17 16 05	Level II: <input checked="" type="checkbox"/>	Laurel Valley Corrective Action We	Recd: 04/06/2017 Due: 04/20/2017
				Level III: <input type="checkbox"/>		
				Level IV: <input type="checkbox"/>		



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 Submitted To: Jake White

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Sample Conditions Checklist

Samples Received at:	5.10°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

Trip Blank to follow. KLC 4/7/17



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
Client Site ID: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Laboratory Sample ID: 17D0221-01 Client Sample ID: Equipment Blank

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6010C	23.4		2.0	10.0	1	ug/L
Chloroform	01	SW8260B	0.40	J	0.20	0.50	1	ug/L

Laboratory Sample ID: 17D0221-02 Client Sample ID: Field Blank

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Chloroform	02	SW8260B	0.48	J	0.20	0.50	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17D0221

Client Name: Joyce Engineering, Inc.-Richmond
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 6, 2017 16:05
Date Issued: April 20, 2017 14:51
Project Number: 310.1701.03.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill

Enclosed are the results of analyses for samples received by the laboratory on 04/06/2017 16:05. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Equipment Blank	17D0221-01	Ground Water	04/06/2017 09:25	04/06/2017 16:05
Field Blank	17D0221-02	Ground Water	04/06/2017 09:30	04/06/2017 16:05
Trip Blank	17D0221-03	Ground Water	03/20/2017 08:50	04/06/2017 16:05



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:07	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	01	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:09	BLOD		1.0	5.0	1	ug/L	BG
Barium	01	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:08	23.4		2.0	10.0	1	ug/L	CWO
Beryllium	01	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	01	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	01	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		2.0	4.0	1	ug/L	CWO
Chromium	01	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		4.0	10.0	1	ug/L	CWO
Copper	01	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:07	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	01	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 14:58	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	01	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		2.0	10.0	1	ug/L	CWO
Lead	01	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	01	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:09	BLOD		1.00	5.00	1	ug/L	BG
Selenium	01	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		15.0	50.0	1	ug/L	CWO
Tin	01	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:08	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	01	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:09	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	01	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:07	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	01RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:36	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	01	71-55-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	01	79-00-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	01	75-34-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	01	75-35-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	01	563-58-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	01	96-18-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	01	120-82-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	01	95-50-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	01	107-06-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	01	78-87-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	01	541-73-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	01	142-28-9	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	01	106-46-7	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	01	594-20-7	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	01	78-93-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	01	591-78-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	01	67-64-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	01	75-05-8	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	01	107-02-8	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	01	107-13-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	01	107-05-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	01	71-43-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	01	74-97-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	01	75-27-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	01	75-25-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	01	74-83-9	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	01	75-15-0	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		1.00	10.0	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	01	75-00-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	01	67-66-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	0.40	J	0.20	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	01	126-99-8	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	156-59-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10061-01-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	01	124-48-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	01	74-95-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-8	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	01	97-63-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	01	100-41-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	01	87-68-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	01	74-88-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	01	78-83-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	01	179601-23-1	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	01	126-98-7	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	01	80-62-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	01	107-12-0	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	01	100-42-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.10	1.00	1	ug/L	JDW



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	01	108-88-3	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-5	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10061-02-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-01-6	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-69-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	108-05-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-7	SW8260B	04/07/2017 16:08	04/07/2017 16:08	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>01</i>	<i>108 %</i>	<i>70-120</i>	<i>04/07/2017 16:08</i>	<i>04/07/2017 16:08</i>							
<i>Surr: 4-Bromofluorobenzene</i>	<i>01</i>	<i>99.2 %</i>	<i>75-120</i>	<i>04/07/2017 16:08</i>	<i>04/07/2017 16:08</i>							
<i>Surr: Dibromofluoromethane</i>	<i>01</i>	<i>103 %</i>	<i>80-119</i>	<i>04/07/2017 16:08</i>	<i>04/07/2017 16:08</i>							
<i>Surr: Toluene-d8</i>	<i>01</i>	<i>99.6 %</i>	<i>85-120</i>	<i>04/07/2017 16:08</i>	<i>04/07/2017 16:08</i>							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	01	99-35-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	01	99-65-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	01	130-15-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	01	134-32-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	01	58-90-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	01	95-95-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dichlorophenol	01	120-83-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	01	51-28-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	0.54	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	01	121-14-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dichlorophenol	01	87-65-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	01	606-20-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2-Acetylaminofluorene	01	53-96-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	01	95-57-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	01	91-57-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	01	91-59-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	01	88-74-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	01	88-75-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	01	91-94-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	01	119-93-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	01	56-49-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	01	99-09-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	01	534-52-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	1.09	54.3	1	ug/L	SKS
4-Aminobiphenyl	01	92-67-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	01	101-55-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
4-Chloroaniline	01	106-47-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	01	7005-72-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
4-Nitroaniline	01	100-01-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	01	100-02-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	01	99-55-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	01	57-97-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	01	83-32-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Acenaphthylene	01	208-96-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Acetophenone	01	98-86-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	01	120-12-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	01	56-55-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	01	205-99-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	01	191-24-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Benzyl alcohol	01	100-51-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	01	111-91-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	01	111-44-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	01	108-60-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	2.72	1	ug/L	SKS



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Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	01	85-68-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Chlorobenzilate	01	510-15-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Chrysene	01	218-01-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Diallate	01	2303-16-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Dibenzofuran	01	132-64-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Dimethoate	01	60-51-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	01	131-11-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Diphenylamine	01	122-39-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	01	298-04-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	01	62-50-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	01	56-38-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	01	52-85-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
Fluoranthene	01	206-44-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Fluorene	01	86-73-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	01	87-68-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	01	77-47-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	1.09	10.9	1	ug/L	SKS
Hexachloroethane	01	67-72-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloropropene	01	1888-71-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS



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Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	01	465-73-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Isophorone	01	78-59-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Isosafrole	01	120-58-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Kepon	01	143-50-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
m+p-Cresols	01	84989-04-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	01	91-80-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	01	66-27-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	01	298-00-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	01	91-20-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Nitrobenzene	01	98-95-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	01	55-18-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	01	62-75-9	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	01	924-16-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	01	621-64-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	01	86-30-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	01	10595-95-6	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	01	100-75-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	01	930-55-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	01	126-68-1	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	01	297-97-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	01	1319-77-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	01	95-48-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
o-Toluidine	01	95-53-4	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS



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Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	01	60-11-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	01	59-50-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Pentachlorobenzene	01	608-93-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	01	82-68-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	01	62-44-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	01	85-01-8	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Phenol	01	108-95-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Phorate	01	298-02-2	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	01	106-50-3	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD	C	2.17	10.9	1	ug/L	SKS
Pronamide	01	23950-58-5	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	01	129-00-0	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		1.09	10.9	1	ug/L	SKS
Safrole	01	94-59-7	SW8270D	04/11/2017 08:59	04/13/2017 13:04	BLOD		2.17	2.72	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	<i>01</i>	<i>55.1 %</i>	<i>20-86</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							
<i>Surr: 2-Fluorobiphenyl</i>	<i>01</i>	<i>62.8 %</i>	<i>23-87</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							
<i>Surr: 2-Fluorophenol</i>	<i>01</i>	<i>46.7 %</i>	<i>10-52</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							
<i>Surr: Nitrobenzene-d5</i>	<i>01</i>	<i>70.6 %</i>	<i>10-98.5</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							
<i>Surr: Phenol-d5</i>	<i>01</i>	<i>27.0 %</i>	<i>5-33</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							
<i>Surr: p-Terphenyl-d14</i>	<i>01</i>	<i>93.0 %</i>	<i>27-133</i>	<i>04/11/2017 08:59</i>	<i>04/13/2017 13:04</i>							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	01	12674-11-2	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.028	0.213	1	ug/L	LBH
PCB as Aroclor 1221	01	11104-28-2	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.213	0.213	1	ug/L	LBH
PCB as Aroclor 1232	01	11141-16-5	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.016	0.213	1	ug/L	LBH
PCB as Aroclor 1242	01	53469-21-9	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.044	0.213	1	ug/L	LBH
PCB as Aroclor 1248	01	12672-29-6	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.051	0.213	1	ug/L	LBH
PCB as Aroclor 1254	01	11097-69-1	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.037	0.213	1	ug/L	LBH
PCB as Aroclor 1260	01	11096-82-5	SW8082A	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.036	0.213	1	ug/L	LBH
<i>Surr: DCB</i>	<i>01</i>	<i>35.0 %</i>	<i>30-105</i>	<i>04/10/2017 09:27</i>	<i>04/17/2017 17:35</i>							
<i>Surr: TCMX</i>	<i>01</i>	<i>65.0 %</i>	<i>30-105</i>	<i>04/10/2017 09:27</i>	<i>04/17/2017 17:35</i>							
4,4'-DDD	01	72-54-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
4,4'-DDE	01	72-55-9	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
4,4'-DDT	01	50-29-3	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
Aldrin	01	309-00-2	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
alpha-BHC	01	319-84-6	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
beta-BHC	01	319-85-7	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.005	0.053	1	ug/L	LBH
Chlordane	01	57-74-9	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.213	0.213	1	ug/L	LBH
delta-BHC	01	319-86-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Dieldrin	01	60-57-1	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.003	0.053	1	ug/L	LBH
Endosulfan I	01	959-98-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan II	01	33213-65-9	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Endosulfan sulfate	01	1031-07-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Endrin	01	72-20-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Endrin aldehyde	01	7421-93-4	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
gamma-BHC (Lindane)	01	58-89-9	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.003	0.053	1	ug/L	LBH



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Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.003	0.053	1	ug/L	LBH
Heptachlor epoxide	01	1024-57-3	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.002	0.053	1	ug/L	LBH
Methoxychlor	01	72-43-5	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.004	0.053	1	ug/L	LBH
Toxaphene	01	8001-35-2	SW8081B	04/10/2017 09:27	04/17/2017 17:35	BLOD		0.213	1.06	1	ug/L	LBH
Surr: TCMX	01	60.0 %	18-112	04/10/2017 09:27	04/17/2017 17:35							
Surr: DCB	01	35.0 %	27-131	04/10/2017 09:27	04/17/2017 17:35							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 17D0221-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 13:01	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	01	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 13:01	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	01	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 13:01	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	01	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 13:01	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	01	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 13:01	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA</i>	<i>01</i>	<i>105 %</i>	<i>60-112</i>	<i>04/10/2017 14:09</i>	<i>04/14/2017 13:01</i>							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 10:04	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	01	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 10:04	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 10:04	BLOD		0.003	0.010	1	ug/L	LBH



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/13/2017 15:15	04/13/2017 15:15	BLOD		0.01	0.01	1	mg/L	BBP
Sulfide	01	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	02	7440-38-2	SW6020A	04/07/2017 15:00	04/10/2017 11:12	BLOD		1.0	5.0	1	ug/L	BG
Barium	02	7440-39-3	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	10.0	1	ug/L	CWO
Beryllium	02	7440-41-7	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	02	7440-43-9	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	02	7440-48-4	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	4.0	1	ug/L	CWO
Chromium	02	7440-47-3	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		4.0	10.0	1	ug/L	CWO
Copper	02	7440-50-8	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	02	7439-97-6	SW7470A	04/10/2017 11:00	04/11/2017 15:00	BLOD		0.20	0.20	1	ug/L	MWL
Nickel	02	7440-02-0	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	10.0	1	ug/L	CWO
Lead	02	7439-92-1	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		6.0	10.0	1	ug/L	CWO
Antimony	02	7440-36-0	SW6020A	04/07/2017 15:00	04/10/2017 11:12	BLOD		1.00	5.00	1	ug/L	BG
Selenium	02	7782-49-2	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		15.0	50.0	1	ug/L	CWO
Tin	02	7440-31-5	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	02	7440-28-0	SW6020A	04/07/2017 15:00	04/10/2017 11:12	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	02	7440-62-2	SW6010C	04/07/2017 16:00	04/10/2017 13:09	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	02RE1	7440-66-6	SW6010C	04/07/2017 16:00	04/11/2017 11:38	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-55-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	02	79-00-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	02	75-34-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW



Certificate of Analysis

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Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloropropene	02	563-58-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	02	96-18-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	02	120-82-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	95-50-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	02	107-06-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	02	78-87-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	02	541-73-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	02	142-28-9	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	02	594-20-7	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	02	78-93-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	02	591-78-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	02	67-64-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	02	75-05-8	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	02	107-02-8	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	02	107-13-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	02	107-05-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.60	1.00	1	ug/L	JDW
Benzene	02	71-43-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	02	74-97-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	02	75-27-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	02	75-25-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	02	74-83-9	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	02	75-15-0	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		1.00	10.0	1	ug/L	JDW



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Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	02	108-90-7	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	02	75-00-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	02	67-66-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	0.48	J	0.20	0.50	1	ug/L	JDW
Chloromethane	02	74-87-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	02	126-99-8	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	02	124-48-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	02	74-95-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	02	75-71-8	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	02	97-63-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	02	100-41-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	02	87-68-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	02	74-88-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	02	78-83-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	02	179601-23-1	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	2.00	1	ug/L	JDW
Methacrylonitrile	02	126-98-7	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	02	80-62-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	02	75-09-2	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	02	95-47-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	02	107-12-0	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	02	100-42-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.10	1.00	1	ug/L	JDW



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Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	02	108-88-3	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	02	79-01-6	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	02	75-69-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	02	108-05-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	02	75-01-4	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	02	1330-20-7	SW8260B	04/07/2017 15:44	04/07/2017 15:44	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	02	104 %	70-120	04/07/2017 15:44	04/07/2017 15:44							
<i>Surr: 4-Bromofluorobenzene</i>	02	97.8 %	75-120	04/07/2017 15:44	04/07/2017 15:44							
<i>Surr: Dibromofluoromethane</i>	02	103 %	80-119	04/07/2017 15:44	04/07/2017 15:44							
<i>Surr: Toluene-d8</i>	02	100 %	85-120	04/07/2017 15:44	04/07/2017 15:44							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	02	99-35-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	02	99-65-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	02	130-15-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	02	134-32-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	02	58-90-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	02	95-95-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	02	88-06-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dichlorophenol	02	120-83-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	02	105-67-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	02	51-28-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD	C	0.54	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	02	121-14-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dichlorophenol	02	87-65-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	02	606-20-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2-Acetylaminofluorene	02	53-96-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	02	95-57-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	02	91-57-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	02	91-59-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	02	88-74-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	02	88-75-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	02	91-94-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	02	119-93-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD	C	2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	02	56-49-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	02	99-09-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	02	534-52-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	54.3	1	ug/L	SKS
4-Aminobiphenyl	02	92-67-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-55-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
4-Chloroaniline	02	106-47-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	02	7005-72-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
4-Nitroaniline	02	100-01-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	02	100-02-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	02	99-55-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	02	57-97-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	02	83-32-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Acenaphthylene	02	208-96-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Acetophenone	02	98-86-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	02	120-12-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	02	56-55-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	02	205-99-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	02	191-24-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Benzyl alcohol	02	100-51-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	02	111-91-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	02	111-44-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	02	108-60-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	2.72	1	ug/L	SKS



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Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Chlorobenzilate	02	510-15-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
Chrysene	02	218-01-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Diallate	02	2303-16-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Dibenzofuran	02	132-64-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Dimethoate	02	60-51-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	02	131-11-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Di-n-octyl phthalate	02	117-84-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Diphenylamine	02	122-39-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	02	298-04-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD	C	2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	02	62-50-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	02	56-38-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	02	52-85-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
Fluoranthene	02	206-44-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Fluorene	02	86-73-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorobenzene	02	118-74-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	02	87-68-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	02	77-47-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloroethane	02	67-72-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloropropene	02	1888-71-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD	C	2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	02	465-73-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Isophorone	02	78-59-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Isosafrole	02	120-58-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Kepono	02	143-50-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
m+p-Cresols	02	84989-04-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	02	91-80-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	02	66-27-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	02	298-00-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	02	91-20-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Nitrobenzene	02	98-95-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	02	55-18-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	02	62-75-9	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	02	924-16-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	02	621-64-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	02	86-30-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	02	10595-95-6	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	02	100-75-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	02	930-55-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	02	126-68-1	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	02	297-97-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	02	1319-77-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	02	95-48-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
o-Toluidine	02	95-53-4	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS



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Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	02	60-11-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	02	59-50-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Pentachlorobenzene	02	608-93-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	02	82-68-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	02	62-44-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	02	85-01-8	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Phenol	02	108-95-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Phorate	02	298-02-2	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	02	106-50-3	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD	C	2.17	10.9	1	ug/L	SKS
Pronamide	02	23950-58-5	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	02	129-00-0	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		1.09	10.9	1	ug/L	SKS
Safrole	02	94-59-7	SW8270D	04/11/2017 08:59	04/12/2017 16:31	BLOD		2.17	2.72	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol</i>	02	50.7 %	20-86	04/11/2017 08:59	04/12/2017 16:31							
<i>Surr: 2-Fluorobiphenyl</i>	02	61.2 %	23-87	04/11/2017 08:59	04/12/2017 16:31							
<i>Surr: 2-Fluorophenol</i>	02	46.5 %	10-52	04/11/2017 08:59	04/12/2017 16:31							
<i>Surr: Nitrobenzene-d5</i>	02	66.2 %	10-98.5	04/11/2017 08:59	04/12/2017 16:31							
<i>Surr: Phenol-d5</i>	02	27.7 %	5-33	04/11/2017 08:59	04/12/2017 16:31							
<i>Surr: p-Terphenyl-d14</i>	02	89.9 %	27-133	04/11/2017 08:59	04/12/2017 16:31							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	02	12674-11-2	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.028	0.215	1	ug/L	LBH
PCB as Aroclor 1221	02	11104-28-2	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.215	0.215	1	ug/L	LBH
PCB as Aroclor 1232	02	11141-16-5	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.016	0.215	1	ug/L	LBH
PCB as Aroclor 1242	02	53469-21-9	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.044	0.215	1	ug/L	LBH
PCB as Aroclor 1248	02	12672-29-6	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.052	0.215	1	ug/L	LBH
PCB as Aroclor 1254	02	11097-69-1	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.038	0.215	1	ug/L	LBH
PCB as Aroclor 1260	02	11096-82-5	SW8082A	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.037	0.215	1	ug/L	LBH
<i>Surr: DCB</i>	02	60.0 %	30-105	04/10/2017 09:27	04/17/2017 17:54							
<i>Surr: TCMX</i>	02	75.0 %	30-105	04/10/2017 09:27	04/17/2017 17:54							
4,4'-DDD	02	72-54-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDE	02	72-55-9	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
4,4'-DDT	02	50-29-3	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
Aldrin	02	309-00-2	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
alpha-BHC	02	319-84-6	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
beta-BHC	02	319-85-7	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.005	0.054	1	ug/L	LBH
Chlordane	02	57-74-9	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.215	0.215	1	ug/L	LBH
delta-BHC	02	319-86-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Dieldrin	02	60-57-1	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.003	0.054	1	ug/L	LBH
Endosulfan I	02	959-98-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan II	02	33213-65-9	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Endosulfan sulfate	02	1031-07-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Endrin	02	72-20-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Endrin aldehyde	02	7421-93-4	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
gamma-BHC (Lindane)	02	58-89-9	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.003	0.054	1	ug/L	LBH



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.003	0.054	1	ug/L	LBH
Heptachlor epoxide	02	1024-57-3	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.002	0.054	1	ug/L	LBH
Methoxychlor	02	72-43-5	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.004	0.054	1	ug/L	LBH
Toxaphene	02	8001-35-2	SW8081B	04/10/2017 09:27	04/17/2017 17:54	BLOD		0.215	1.08	1	ug/L	LBH
Surr: TCMX	02	65.0 %	18-112	04/10/2017 09:27	04/17/2017 17:54							
Surr: DCB	02	60.0 %	27-131	04/10/2017 09:27	04/17/2017 17:54							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	04/10/2017 14:09	04/14/2017 13:24	BLOD		0.100	0.500	1	ug/L	CVH
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	04/10/2017 14:09	04/14/2017 13:24	BLOD		0.100	0.500	1	ug/L	CVH
2,4-D	02	94-75-7	SW8151A	04/10/2017 14:09	04/14/2017 13:24	BLOD		0.100	0.500	1	ug/L	CVH
Dinoseb	02	88-85-7	SW8151A	04/10/2017 14:09	04/14/2017 13:24	BLOD	C	0.010	0.500	1	ug/L	CVH
Pentachlorophenol	02	87-86-5	SW8151A	04/10/2017 14:09	04/14/2017 13:24	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA	02	85.0 %	60-112	04/10/2017 14:09	04/14/2017 13:24							



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Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 10:23	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	02	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 10:23	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 10:23	BLOD		0.003	0.010	1	ug/L	LBH



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Client Sample ID: Field Blank

Laboratory Sample ID: 17D0221-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-5	SW9012B	04/13/2017 15:18	04/13/2017 15:18	BLOD		0.01	0.01	1	mg/L	BBP
Sulfide	02	18496-25-8	SW9215	04/11/2017 11:30	04/11/2017 11:30	BLOD		0.50	1.00	1	mg/L	CMB



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Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17D0221-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	03	71-55-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	03	79-00-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethane	03	75-34-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloroethylene	03	75-35-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,1-Dichloropropene	03	563-58-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	03	96-18-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	03	120-82-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	03	95-50-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	03	107-06-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	03	78-87-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	03	541-73-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	03	142-28-9	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	03	106-46-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
2,2-Dichloropropane	03	594-20-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MEK)	03	78-93-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	JDW
2-Hexanone (MBK)	03	591-78-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		4.00	5.00	1	ug/L	JDW
Acetone	03	67-64-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	03	75-05-8	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		5.90	10.0	1	ug/L	JDW
Acrolein	03	107-02-8	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	03	107-13-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	03	107-05-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.60	1.00	1	ug/L	JDW



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17D0221-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	03	71-43-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Bromochloromethane	03	74-97-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	03	75-27-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	03	75-25-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	03	74-83-9	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	03	75-15-0	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	03	56-23-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Chlorobenzene	03	108-90-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	JDW
Chloroethane	03	75-00-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Chloroform	03	67-66-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	JDW
Chloromethane	03	74-87-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
Chloroprene	03	126-99-8	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	03	124-48-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	JDW
Dibromomethane	03	74-95-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	03	75-71-8	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Ethyl methacrylate	03	97-63-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.50	5.00	1	ug/L	JDW
Ethylbenzene	03	100-41-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	JDW
Hexachlorobutadiene	03	87-68-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	0.80	1	ug/L	JDW
Iodomethane	03	74-88-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	03	78-83-1	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		18.0	40.0	1	ug/L	JDW
m+p-Xylenes	03	179601-23-	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	2.00	1	ug/L	JDW



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 17D0221-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	03	126-98-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	03	80-62-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	03	75-09-2	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.00	4.00	1	ug/L	JDW
o-Xylene	03	95-47-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	JDW
Propionitrile	03	107-12-0	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		7.50	40.0	1	ug/L	JDW
Styrene	03	100-42-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.10	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Toluene	03	108-88-3	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	03	79-01-6	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Trichlorofluoromethane	03	75-69-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	03	108-05-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	03	75-01-4	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.20	0.50	1	ug/L	JDW
Xylenes, Total	03	1330-20-7	SW8260B	04/07/2017 15:19	04/07/2017 15:19	BLOD		0.30	3.00	1	ug/L	JDW
<i>Surr: 1,2-Dichloroethane-d4</i>	03	106 %	70-120	04/07/2017 15:19	04/07/2017 15:19							
<i>Surr: 4-Bromofluorobenzene</i>	03	96.0 %	75-120	04/07/2017 15:19	04/07/2017 15:19							
<i>Surr: Dibromofluoromethane</i>	03	102 %	80-119	04/07/2017 15:19	04/07/2017 15:19							
<i>Surr: Toluene-d8</i>	03	100 %	85-120	04/07/2017 15:19	04/07/2017 15:19							



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Laboratory Sample ID: 17D0221-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	04/07/2017 15:51	04/08/2017 10:42	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	03	96-18-4	SW8011	04/07/2017 15:51	04/08/2017 10:42	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	04/07/2017 15:51	04/08/2017 10:42	BLOD		0.003	0.010	1	ug/L	LBH



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0169 - EPA200.2/R2.8

Blank (BAD0169-BLK1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Thallium	BLOD	2.00	ug/L							

LCS (BAD0169-BS1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	50.5	5.00	ug/L	50.0		101	80-120			
Arsenic	53	5.0	ug/L	50.0		105	80-120			
Thallium	51.8	2.00	ug/L	50.0		104	80-120			

LCS Dup (BAD0169-BSD1)

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	50.3	5.00	ug/L	50.0		101	80-120	0.311	20	
Arsenic	51	5.0	ug/L	50.0		101	80-120	3.67	20	
Thallium	53.7	2.00	ug/L	50.0		107	80-120	3.58	20	

Matrix Spike (BAD0169-MS1)

Source: 17D0225-01

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	52.9	5.00	ug/L	50.0	BLOD	106	75-125			
Arsenic	54	5.0	ug/L	50.0	BLOD	109	75-125			
Thallium	50.5	2.00	ug/L	50.0	BLOD	101	75-125			

Matrix Spike Dup (BAD0169-MSD1)

Source: 17D0225-01

Prepared: 04/09/2017 Analyzed: 04/10/2017

Antimony	53.8	5.00	ug/L	50.0	BLOD	108	75-125	1.69	20	
Arsenic	54	5.0	ug/L	50.0	BLOD	109	75-125	0.247	20	
Thallium	50.3	2.00	ug/L	50.0	BLOD	101	75-125	0.533	20	

Batch BAD0174 - EPA200.2/R2.8

Blank (BAD0174-BLK1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	BLOD	10.0	ug/L							
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Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Blank (BAD0174-BLK1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BAD0174-BS1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	530	10.0	ug/L	500	106	80-120
Beryllium	535	4.0	ug/L	500	107	80-120
Cadmium	539	4.0	ug/L	500	108	80-120
Chromium	533	10.0	ug/L	500	107	80-120
Cobalt	533	4.0	ug/L	500	107	80-120
Copper	524	10.0	ug/L	500	105	80-120
Lead	528	10.0	ug/L	500	106	80-120
Nickel	534.2	10.0	ug/L	500	107	80-120
Selenium	529	50.0	ug/L	500	106	80-120
Silver	105	10.0	ug/L	100	105	80-120
Tin	97.4	20.0	ug/L	100	97.4	80-120

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Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

LCS (BAD0174-BS1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Vanadium	526	10.0	ug/L	500		105	80-120			
Zinc	531	10.0	ug/L	500		106	80-120			

LCS Dup (BAD0174-BSD1)

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	512	10.0	ug/L	500		102	80-120	3.55	20	
Beryllium	517	4.0	ug/L	500		103	80-120	3.53	20	
Cadmium	518	4.0	ug/L	500		104	80-120	3.95	20	
Chromium	513	10.0	ug/L	500		103	80-120	3.80	20	
Cobalt	516	4.0	ug/L	500		103	80-120	3.27	20	
Copper	505	10.0	ug/L	500		101	80-120	3.66	20	
Lead	512	10.0	ug/L	500		102	80-120	3.03	20	
Nickel	515.7	10.0	ug/L	500		103	80-120	3.52	20	
Selenium	510	50.0	ug/L	500		102	80-120	3.66	20	
Silver	102	10.0	ug/L	100		102	80-120	2.99	20	E
Tin	94.6	20.0	ug/L	100		94.6	80-120	2.93	20	
Vanadium	505	10.0	ug/L	500		101	80-120	4.04	20	
Zinc	512	10.0	ug/L	500		102	80-120	3.57	20	

Matrix Spike (BAD0174-MS1)

Source: 17D0225-01

Prepared: 04/07/2017 Analyzed: 04/10/2017

Barium	664	10.0	ug/L	500	153	102	75-125			
Beryllium	519	4.0	ug/L	500	BLOD	104	75-125			
Cadmium	513	4.0	ug/L	500	BLOD	103	75-125			
Chromium	511	10.0	ug/L	500	BLOD	102	75-125			
Cobalt	529	4.0	ug/L	500	12.1	103	75-125			
Copper	513	10.0	ug/L	500	BLOD	103	75-125			
Lead	508	10.0	ug/L	500	BLOD	102	75-125			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Matrix Spike (BAD0174-MS1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Nickel	518.0	10.0	ug/L	500	5.1	103	75-125			
Selenium	508	50.0	ug/L	500	BLOD	102	75-125			
Silver	102	10.0	ug/L	100	BLOD	102	75-125			E
Tin	93.1	20.0	ug/L	100	BLOD	93.1	75-125			
Vanadium	506	10.0	ug/L	500	BLOD	101	75-125			
Zinc	511	10.0	ug/L	500	BLOD	102	75-125			

Matrix Spike (BAD0174-MS2)		Source: 17D0228-03			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	586	10.0	ug/L	500	54.9	106	75-125			
Beryllium	547	4.0	ug/L	500	BLOD	109	75-125			
Cadmium	532	4.0	ug/L	500	BLOD	106	75-125			
Chromium	528	10.0	ug/L	500	BLOD	106	75-125			
Cobalt	536	4.0	ug/L	500	BLOD	107	75-125			
Copper	541	10.0	ug/L	500	BLOD	108	75-125			
Lead	527	10.0	ug/L	500	BLOD	105	75-125			
Nickel	529.2	10.0	ug/L	500	BLOD	106	75-125			
Selenium	557	50.0	ug/L	500	15.2	108	75-125			
Silver	106	10.0	ug/L	100	BLOD	106	75-125			E
Tin	88.4	20.0	ug/L	100	BLOD	88.4	75-125			
Vanadium	528	10.0	ug/L	500	2.5	105	75-125			
Zinc	527	10.0	ug/L	500	BLOD	105	75-125			

Matrix Spike Dup (BAD0174-MSD1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	671	10.0	ug/L	500	153	104	75-125	1.10	20	
Beryllium	528	4.0	ug/L	500	BLOD	106	75-125	1.80	20	
Cadmium	524	4.0	ug/L	500	BLOD	105	75-125	2.07	20	



Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0174 - EPA200.2/R2.8

Matrix Spike Dup (BAD0174-MSD1)		Source: 17D0225-01			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Chromium	529	10.0	ug/L	500	BLOD	106	75-125	3.45	20	
Cobalt	547	4.0	ug/L	500	12.1	107	75-125	3.24	20	
Copper	523	10.0	ug/L	500	BLOD	105	75-125	2.06	20	
Lead	522	10.0	ug/L	500	BLOD	104	75-125	2.77	20	
Nickel	534.9	10.0	ug/L	500	5.1	106	75-125	3.21	20	
Selenium	540	50.0	ug/L	500	BLOD	108	75-125	6.19	20	
Silver	104	10.0	ug/L	100	BLOD	104	75-125	1.66	20	E
Tin	96.5	20.0	ug/L	100	BLOD	96.5	75-125	3.61	20	
Vanadium	516	10.0	ug/L	500	BLOD	103	75-125	2.12	20	
Zinc	528	10.0	ug/L	500	BLOD	106	75-125	3.21	20	

Matrix Spike Dup (BAD0174-MSD2)		Source: 17D0228-03			Prepared: 04/07/2017 Analyzed: 04/10/2017					
Barium	601	10.0	ug/L	500	54.9	109	75-125	2.60	20	
Beryllium	564	4.0	ug/L	500	BLOD	113	75-125	2.96	20	
Cadmium	548	4.0	ug/L	500	BLOD	110	75-125	2.99	20	
Chromium	547	10.0	ug/L	500	BLOD	109	75-125	3.39	20	
Cobalt	553	4.0	ug/L	500	BLOD	111	75-125	3.05	20	
Copper	559	10.0	ug/L	500	BLOD	112	75-125	3.22	20	
Lead	538	10.0	ug/L	500	BLOD	108	75-125	2.15	20	
Nickel	545.4	10.0	ug/L	500	BLOD	109	75-125	3.01	20	
Selenium	575	50.0	ug/L	500	15.2	112	75-125	3.21	20	
Silver	107	10.0	ug/L	100	BLOD	107	75-125	0.750	20	E
Tin	90.9	20.0	ug/L	100	BLOD	90.9	75-125	2.80	20	
Vanadium	543	10.0	ug/L	500	2.5	108	75-125	2.86	20	
Zinc	543	10.0	ug/L	500	BLOD	109	75-125	3.04	20	



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0222 - SW7470A										
Blank (BAD0222-BLK1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	BLOD	0.20	ug/L							
LCS (BAD0222-BS1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.46	0.20	ug/L	2.50		98.3	80-120			
LCS Dup (BAD0222-BSD1)				Prepared: 04/10/2017 Analyzed: 04/11/2017						
Mercury	2.51	0.20	ug/L	2.50		100	80-120	2.19	20	
Matrix Spike (BAD0222-MS1)				Source: 17D0201-20		Prepared: 04/10/2017 Analyzed: 04/11/2017				
Mercury	2.46	0.20	ug/L	2.50	BLOD	98.6	80-120			
Matrix Spike (BAD0222-MS2)				Source: 17D0201-32		Prepared: 04/10/2017 Analyzed: 04/11/2017				
Mercury	2.31	0.20	ug/L	2.50	BLOD	92.4	80-120			
Matrix Spike Dup (BAD0222-MSD1)				Source: 17D0201-20		Prepared: 04/10/2017 Analyzed: 04/11/2017				
Mercury	2.40	0.20	ug/L	2.50	BLOD	96.0	80-120	2.64	20	
Matrix Spike Dup (BAD0222-MSD2)				Source: 17D0201-32		Prepared: 04/10/2017 Analyzed: 04/11/2017				
Mercury	2.37	0.20	ug/L	2.50	BLOD	94.9	80-120	2.70	20	



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,1-Dichloropropene	BLOD	1.00	ug/L							
1,2,3-Trichloropropane	BLOD	1.00	ug/L							
1,2,4-Trichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,3-Dichlorobenzene	BLOD	1.00	ug/L							
1,3-Dichloropropane	BLOD	1.00	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2,2-Dichloropropane	BLOD	2.00	ug/L							
2-Butanone (MEK)	BLOD	5.00	ug/L							
2-Hexanone (MBK)	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acetonitrile	BLOD	10.0	ug/L							
Acrolein	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Allyl chloride	BLOD	1.00	ug/L							
Benzene	BLOD	1.00	ug/L							



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

Bromochloromethane	BLOD	1.00	ug/L							
Bromodichloromethane	BLOD	0.50	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon disulfide	BLOD	10.0	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							
Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
Chloroprene	BLOD	5.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Dichlorodifluoromethane	BLOD	1.00	ug/L							
Ethyl methacrylate	BLOD	5.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Hexachlorobutadiene	BLOD	0.80	ug/L							
Iodomethane	BLOD	10.0	ug/L							
Isobutyl Alcohol	BLOD	40.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methacrylonitrile	BLOD	1.50	ug/L							
Methyl methacrylate	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Blank (BAD0186-BLK1)

Prepared & Analyzed: 04/07/2017

o-Xylene	BLOD	1.00	ug/L							
Propionitrile	BLOD	40.0	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>103</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.4</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>101</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>49.9</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.8</i>	<i>85-120</i>			

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

1,1,1,2-Tetrachloroethane	50.0	0.4	ug/L	50.0		100	80-130			
1,1,1-Trichloroethane	46.6	1	ug/L	50.0		93.2	65-130			
1,1,2,2-Tetrachloroethane	52.1	0.4	ug/L	50.0		104	65-130			
1,1,2-Trichloroethane	52.3	1	ug/L	50.0		105	75-125			
1,1-Dichloroethane	50.9	1	ug/L	50.0		102	70-135			
1,1-Dichloroethylene	50.3	1	ug/L	50.0		101	70-130			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

1,1-Dichloropropene	47.5	1	ug/L	50.0		94.9	75-135			
1,2,3-Trichloropropane	51.2	1	ug/L	50.0		102	75-125			
1,2,4-Trichlorobenzene	51.5	1	ug/L	50.0		103	65-135			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0		100	70-120			
1,2-Dichloroethane	47.4	1	ug/L	50.0		94.9	70-130			
1,2-Dichloropropane	49.9	1	ug/L	50.0		99.8	75-125			
1,3-Dichlorobenzene	50.6	1	ug/L	50.0		101	75-125			
1,3-Dichloropropane	51.5	1	ug/L	50.0		103	75-125			
1,4-Dichlorobenzene	49.7	1	ug/L	50.0		99.4	75-125			
2,2-Dichloropropane	49.2	2	ug/L	50.0		98.3	70-135			
2-Butanone (MEK)	55.6	5	ug/L	50.0		111	30-150			
2-Hexanone (MBK)	53.9	5	ug/L	50.0		108	55-130			
4-Methyl-2-pentanone (MIBK)	53.3	5	ug/L	50.0		107	60-135			
Acetone	57.4	10	ug/L	50.0		115	40-140			
Acrylonitrile	295	5	ug/L	250		118	70-130			
Benzene	49.2	1	ug/L	50.0		98.5	80-120			
Bromochloromethane	50.7	1	ug/L	50.0		101	65-130			
Bromodichloromethane	50.9	0.5	ug/L	50.0		102	75-120			
Bromoform	52.2	1	ug/L	50.0		104	70-130			
Bromomethane	47.2	1	ug/L	50.0		94.4	30-145			
Carbon disulfide	70.0	10	ug/L	50.0		140	35-160			
Carbon tetrachloride	46.7	1	ug/L	50.0		93.5	65-140			
Chlorobenzene	49.4	1	ug/L	50.0		98.9	80-120			
Chloroethane	50.4	1	ug/L	50.0		101	60-135			
Chloroform	46.8	0.5	ug/L	50.0		93.7	65-135			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

LCS (BAD0186-BS1)

Prepared & Analyzed: 04/07/2017

Chloromethane	50.1	1	ug/L	50.0		100	40-125			
cis-1,2-Dichloroethylene	49.5	1	ug/L	50.0		99.1	70-125			
cis-1,3-Dichloropropene	45.9	1	ug/L	50.0		91.8	70-130			
Dibromochloromethane	50.1	0.5	ug/L	50.0		100	60-135			
Dibromomethane	50.0	1	ug/L	50.0		100	75-125			
Dichlorodifluoromethane	56.3	1	ug/L	50.0		113	30-155			
Ethylbenzene	51.0	1	ug/L	50.0		102	75-125			
Hexachlorobutadiene	46.6	0.8	ug/L	50.0		93.3	50-140			
m+p-Xylenes	103	2	ug/L	100		103	75-130			
Methylene chloride	52.0	4	ug/L	50.0		104	55-140			
o-Xylene	50.4	1	ug/L	50.0		101	80-120			
Styrene	53.9	1	ug/L	50.0		108	65-135			
Tetrachloroethylene (PCE)	60.9	1	ug/L	50.0		122	45-150			
Toluene	50.0	1	ug/L	50.0		100	75-120			
trans-1,2-Dichloroethylene	49.5	1	ug/L	50.0		99.0	60-140			
trans-1,3-Dichloropropene	50.6	1	ug/L	50.0		101	55-140			
Trichloroethylene	48.4	1	ug/L	50.0		96.7	70-125			
Trichlorofluoromethane	46.3	1	ug/L	50.0		92.5	60-145			
Vinyl chloride	49.3	0.5	ug/L	50.0		98.5	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>103</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.7</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>50.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>101</i>	<i>85-120</i>			

Matrix Spike (BAD0186-MS1)

Source: 17D0225-01

Prepared & Analyzed: 04/07/2017



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)	Source: 17D0225-01			Prepared & Analyzed: 04/07/2017						
1,1,1,2-Tetrachloroethane	47.7	0.4	ug/L	50.0	BLOD	95.4	80-130			
1,1,1-Trichloroethane	48.3	1	ug/L	50.0	BLOD	96.6	65-130			
1,1,2,2-Tetrachloroethane	49.8	0.4	ug/L	50.0	BLOD	99.6	65-130			
1,1,2-Trichloroethane	49.9	1	ug/L	50.0	BLOD	99.8	75-125			
1,1-Dichloroethane	59.0	1	ug/L	50.0	8.53	101	70-135			
1,1-Dichloroethylene	53.4	1	ug/L	50.0	BLOD	106	70-130			
1,1-Dichloropropene	50.0	1	ug/L	50.0	BLOD	100	75-135			
1,2,3-Trichloropropane	48.7	1	ug/L	50.0	BLOD	97.4	75-125			
1,2,4-Trichlorobenzene	48.0	1	ug/L	50.0	BLOD	95.9	65-135			
1,2-Dichlorobenzene	48.8	1	ug/L	50.0	0.26	97.0	70-120			
1,2-Dichloroethane	46.4	1	ug/L	50.0	0.46	91.8	70-130			
1,2-Dichloropropane	49.3	1	ug/L	50.0	0.66	97.3	75-125			
1,3-Dichlorobenzene	48.7	1	ug/L	50.0	BLOD	97.5	75-125			
1,3-Dichloropropane	49.1	1	ug/L	50.0	BLOD	98.1	75-125			
1,4-Dichlorobenzene	51.4	1	ug/L	50.0	4.08	94.7	75-125			
2,2-Dichloropropane	46.2	2	ug/L	50.0	BLOD	92.4	70-135			
2-Butanone (MEK)	47.0	5	ug/L	50.0	BLOD	93.9	30-150			
2-Hexanone (MBK)	47.7	5	ug/L	50.0	BLOD	95.4	55-130			
4-Methyl-2-pentanone (MIBK)	49.0	5	ug/L	50.0	BLOD	97.9	60-135			
Acetone	49.7	10	ug/L	50.0	BLOD	96.9	40-140			
Acrylonitrile	265	5	ug/L	250	BLOD	106	70-130			
Benzene	51.2	1	ug/L	50.0	1.70	99.0	80-120			
Bromochloromethane	48.7	1	ug/L	50.0	BLOD	97.5	65-130			
Bromodichloromethane	49.0	0.5	ug/L	50.0	BLOD	98.1	75-120			
Bromoform	48.4	1	ug/L	50.0	BLOD	96.7	70-130			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)	Source: 17D0225-01			Prepared & Analyzed: 04/07/2017						
Bromomethane	39.0	1	ug/L	50.0	BLOD	78.0	30-145			
Carbon disulfide	73.0	10	ug/L	50.0	BLOD	145	35-160			
Carbon tetrachloride	49.0	1	ug/L	50.0	BLOD	97.9	65-140			
Chlorobenzene	50.1	1	ug/L	50.0	2.43	95.4	80-120			
Chloroethane	55.4	1	ug/L	50.0	2.19	106	60-135			
Chloroform	46.3	0.5	ug/L	50.0	BLOD	92.5	65-135			
Chloromethane	50.9	1	ug/L	50.0	0.35	101	40-125			
cis-1,2-Dichloroethylene	59.3	1	ug/L	50.0	10.2	98.2	70-125			
cis-1,3-Dichloropropene	43.0	1	ug/L	50.0	BLOD	86.1	70-130			
Dibromochloromethane	48.4	0.5	ug/L	50.0	BLOD	96.8	60-135			
Dibromomethane	48.6	1	ug/L	50.0	BLOD	97.3	75-125			
Dichlorodifluoromethane	59.3	1	ug/L	50.0	BLOD	119	30-155			
Ethylbenzene	51.8	1	ug/L	50.0	BLOD	104	75-125			
Hexachlorobutadiene	47.1	0.8	ug/L	50.0	BLOD	94.2	50-140			
m+p-Xylenes	100	2	ug/L	100	BLOD	100	75-130			
Methylene chloride	52.3	4	ug/L	50.0	BLOD	105	55-140			
o-Xylene	48.2	1	ug/L	50.0	BLOD	96.4	80-120			
Styrene	51.7	1	ug/L	50.0	BLOD	103	65-135			
Tetrachloroethylene (PCE)	61.5	1	ug/L	50.0	0.23	122	45-150			
Toluene	50.0	1	ug/L	50.0	BLOD	100	75-120			
trans-1,2-Dichloroethylene	51.1	1	ug/L	50.0	0.33	102	60-140			
trans-1,3-Dichloropropene	48.2	1	ug/L	50.0	BLOD	96.4	55-140			
Trichloroethylene	49.3	1	ug/L	50.0	1.37	95.8	70-125			
Trichlorofluoromethane	49.7	1	ug/L	50.0	BLOD	99.4	60-145			
Vinyl chloride	55.7	0.5	ug/L	50.0	2.66	106	50-145			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike (BAD0186-MS1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
<i>Surr: 1,2-Dichloroethane-d4</i>	53.3		ug/L	50.0		107	70-120			
<i>Surr: 4-Bromofluorobenzene</i>	48.7		ug/L	50.0		97.3	75-120			
<i>Surr: Dibromofluoromethane</i>	50.6		ug/L	50.0		101	80-119			
<i>Surr: Toluene-d8</i>	49.9		ug/L	50.0		99.7	85-120			

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
1,1,1,2-Tetrachloroethane	49.7	0.4	ug/L	50.0	BLOD	99.4	80-130	4.13	30	
1,1,1-Trichloroethane	49.0	1	ug/L	50.0	BLOD	97.9	65-130	1.31	30	
1,1,2,2-Tetrachloroethane	51.5	0.4	ug/L	50.0	BLOD	103	65-130	3.40	30	
1,1,2-Trichloroethane	50.4	1	ug/L	50.0	BLOD	101	75-125	1.08	30	
1,1-Dichloroethane	59.6	1	ug/L	50.0	8.53	102	70-135	1.01	30	
1,1-Dichloroethylene	54.7	1	ug/L	50.0	BLOD	109	70-130	2.41	30	
1,1-Dichloropropene	50.9	1	ug/L	50.0	BLOD	102	75-135	1.74	30	
1,2,3-Trichloropropane	50.5	1	ug/L	50.0	BLOD	101	75-125	3.56	30	
1,2,4-Trichlorobenzene	52.9	1	ug/L	50.0	BLOD	106	65-135	9.73	30	
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	0.26	99.2	70-120	2.27	30	
1,2-Dichloroethane	46.6	1	ug/L	50.0	0.46	92.2	70-130	0.394	30	
1,2-Dichloropropane	49.9	1	ug/L	50.0	0.66	98.4	75-125	1.12	30	
1,3-Dichlorobenzene	49.8	1	ug/L	50.0	BLOD	99.6	75-125	2.21	30	
1,3-Dichloropropane	49.8	1	ug/L	50.0	BLOD	99.6	75-125	1.47	30	
1,4-Dichlorobenzene	53.1	1	ug/L	50.0	4.08	98.0	75-125	3.17	30	
2,2-Dichloropropane	46.1	2	ug/L	50.0	BLOD	92.2	70-135	0.258	30	
2-Butanone (MEK)	47.3	5	ug/L	50.0	BLOD	94.5	30-150	0.628	30	
2-Hexanone (MBK)	53.3	5	ug/L	50.0	BLOD	107	55-130	11.1	30	
4-Methyl-2-pentanone (MIBK)	50.5	5	ug/L	50.0	BLOD	101	60-135	3.06	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01			Prepared & Analyzed: 04/07/2017						
Acetone	50.8	10	ug/L	50.0	BLOD	99.0	40-140	2.10	30	
Acrylonitrile	261	5	ug/L	250	BLOD	104	70-130	1.69	30	
Benzene	52.1	1	ug/L	50.0	1.70	101	80-120	1.68	30	
Bromochloromethane	48.8	1	ug/L	50.0	BLOD	97.5	65-130	0.0944	30	
Bromodichloromethane	49.0	0.5	ug/L	50.0	BLOD	98.0	75-120	0.0796	30	
Bromoform	49.2	1	ug/L	50.0	BLOD	98.4	70-130	1.70	30	
Bromomethane	46.5	1	ug/L	50.0	BLOD	93.0	30-145	17.6	30	
Carbon disulfide	75.2	10	ug/L	50.0	BLOD	149	35-160	2.94	30	
Carbon tetrachloride	50.6	1	ug/L	50.0	BLOD	101	65-140	3.27	30	
Chlorobenzene	52.4	1	ug/L	50.0	2.43	100	80-120	4.43	30	
Chloroethane	55.8	1	ug/L	50.0	2.19	107	60-135	0.854	30	
Chloroform	47.2	0.5	ug/L	50.0	BLOD	94.4	65-135	1.94	30	
Chloromethane	54.0	1	ug/L	50.0	0.35	107	40-125	5.90	30	
cis-1,2-Dichloroethylene	59.8	1	ug/L	50.0	10.2	99.3	70-125	0.904	30	
cis-1,3-Dichloropropene	44.3	1	ug/L	50.0	BLOD	88.7	70-130	2.96	30	
Dibromochloromethane	48.6	0.5	ug/L	50.0	BLOD	97.3	60-135	0.497	30	
Dibromomethane	48.5	1	ug/L	50.0	BLOD	97.0	75-125	0.266	30	
Dichlorodifluoromethane	49.9	1	ug/L	50.0	BLOD	99.8	30-155	17.2	30	
Ethylbenzene	52.7	1	ug/L	50.0	BLOD	105	75-125	1.67	30	
Hexachlorobutadiene	56.0	0.8	ug/L	50.0	BLOD	112	50-140	17.2	30	
m+p-Xylenes	105	2	ug/L	100	BLOD	105	75-130	4.09	30	
Methylene chloride	52.3	4	ug/L	50.0	BLOD	105	55-140	0.0535	30	
o-Xylene	50.5	1	ug/L	50.0	BLOD	101	80-120	4.71	30	
Styrene	53.8	1	ug/L	50.0	BLOD	108	65-135	3.85	30	
Tetrachloroethylene (PCE)	63.6	1	ug/L	50.0	0.23	127	45-150	3.47	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0186 - SW5030B

Matrix Spike Dup (BAD0186-MSD1)	Source: 17D0225-01		Prepared & Analyzed: 04/07/2017							
Toluene	50.5	1	ug/L	50.0	BLOD	101	75-120	0.965	30	
trans-1,2-Dichloroethylene	52.6	1	ug/L	50.0	0.33	104	60-140	2.84	30	
trans-1,3-Dichloropropene	48.7	1	ug/L	50.0	BLOD	97.4	55-140	1.08	30	
Trichloroethylene	50.7	1	ug/L	50.0	1.37	98.8	70-125	2.99	30	
Trichlorofluoromethane	50.0	1	ug/L	50.0	BLOD	100	60-145	0.628	30	
Vinyl chloride	56.9	0.5	ug/L	50.0	2.66	109	50-145	2.24	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.5</i>		<i>ug/L</i>	<i>50.0</i>		<i>105</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.4</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>80-119</i>			
<i>Surr: Toluene-d8</i>	<i>49.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.7</i>	<i>85-120</i>			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4,5-Tetrachlorobenzene	BLOD	10.0	ug/L							
1,3,5-Trinitrobenzene	BLOD	5.00	ug/L							
1,3-Dinitrobenzene	BLOD	2.50	ug/L							
1,4-Naphthoquinone	BLOD	10.0	ug/L							
1-Naphthylamine	BLOD	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	BLOD	10.0	ug/L							
2,4,5-Trichlorophenol	BLOD	10.0	ug/L							
2,4,6-Trichlorophenol	BLOD	10.0	ug/L							
2,4-Dichlorophenol	BLOD	10.0	ug/L							
2,4-Dimethylphenol	BLOD	0.50	ug/L							
2,4-Dinitrophenol	BLOD	50.0	ug/L							
2,4-Dinitrotoluene	BLOD	10.0	ug/L							
2,6-Dichlorophenol	BLOD	10.0	ug/L							
2,6-Dinitrotoluene	BLOD	10.0	ug/L							
2-Acetylaminofluorene	BLOD	2.50	ug/L							
2-Chloronaphthalene	BLOD	10.0	ug/L							
2-Chlorophenol	BLOD	10.0	ug/L							
2-Methylnaphthalene	BLOD	10.0	ug/L							
2-Naphthylamine	BLOD	10.0	ug/L							
2-Nitroaniline	BLOD	20.0	ug/L							
2-Nitrophenol	BLOD	10.0	ug/L							
3,3'-Dichlorobenzidine	BLOD	10.0	ug/L							
3,3'-Dimethylbenzidine	BLOD	2.50	ug/L							
3-Methylcholanthrene	BLOD	10.0	ug/L							
3-Nitroaniline	BLOD	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

4,6-Dinitro-2-methylphenol	BLOD	50.0	ug/L							
4-Aminobiphenyl	BLOD	10.0	ug/L							
4-Bromophenyl phenyl ether	BLOD	10.0	ug/L							
4-Chloroaniline	BLOD	10.0	ug/L							
4-Chlorophenyl phenyl ether	BLOD	10.0	ug/L							
4-Nitroaniline	BLOD	20.0	ug/L							
4-Nitrophenol	BLOD	50.0	ug/L							
5-Nitro-o-toluidine	BLOD	10.0	ug/L							
7,12-Dimethylbenz (a) anthracene	BLOD	10.0	ug/L							
Acenaphthene	BLOD	10.0	ug/L							
Acenaphthylene	BLOD	10.0	ug/L							
Acetophenone	BLOD	20.0	ug/L							
Anthracene	BLOD	10.0	ug/L							
Benzo (a) anthracene	BLOD	0.05	ug/L							
Benzo (a) pyrene	BLOD	0.10	ug/L							
Benzo (b) fluoranthene	BLOD	10.0	ug/L							
Benzo (g,h,i) perylene	BLOD	10.0	ug/L							
Benzo (k) fluoranthene	BLOD	10.0	ug/L							
Benzyl alcohol	BLOD	20.0	ug/L							
bis (2-Chloroethoxy) methane	BLOD	10.0	ug/L							
bis (2-Chloroethyl) ether	BLOD	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Butyl benzyl phthalate	BLOD	10.0	ug/L							
Chlorobenzilate	BLOD	2.50	ug/L							



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Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Chrysene	BLOD	10.0	ug/L
Diallate	BLOD	2.50	ug/L
Dibenz (a,h) anthracene	BLOD	10.0	ug/L
Dibenzofuran	BLOD	5.00	ug/L
Diethyl phthalate	BLOD	10.0	ug/L
Dimethoate	BLOD	2.50	ug/L
Dimethyl phthalate	BLOD	10.0	ug/L
Di-n-butyl phthalate	BLOD	10.0	ug/L
Di-n-octyl phthalate	BLOD	10.0	ug/L
Diphenylamine	BLOD	10.0	ug/L
Disulfoton	BLOD	2.50	ug/L
Ethyl methanesulfonate	BLOD	20.0	ug/L
Ethyl parathion	BLOD	2.50	ug/L
Famphur	BLOD	2.50	ug/L
Fluoranthene	BLOD	10.0	ug/L
Fluorene	BLOD	10.0	ug/L
Hexachlorobenzene	BLOD	0.05	ug/L
Hexachlorobutadiene	BLOD	10.0	ug/L
Hexachlorocyclopentadiene	BLOD	10.0	ug/L
Hexachloroethane	BLOD	10.0	ug/L
Hexachloropropene	BLOD	2.50	ug/L
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L
Isodrin	BLOD	10.0	ug/L
Isophorone	BLOD	10.0	ug/L
Isosafrole	BLOD	10.0	ug/L



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Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Kepone	BLOD	2.50	ug/L							
m+p-Cresols	BLOD	10.0	ug/L							
Methapyrilene	BLOD	10.0	ug/L							
Methyl methanesulfonate	BLOD	10.0	ug/L							
Methyl parathion	BLOD	2.50	ug/L							
Naphthalene	BLOD	10.0	ug/L							
Nitrobenzene	BLOD	10.0	ug/L							
n-Nitrosodiethylamine	BLOD	2.50	ug/L							
n-Nitrosodimethylamine	BLOD	10.0	ug/L							
n-Nitrosodi-n-butylamine	BLOD	10.0	ug/L							
n-Nitrosodi-n-propylamine	BLOD	10.0	ug/L							
n-Nitrosodiphenylamine	BLOD	10.0	ug/L							
n-Nitrosomethylethylamine	BLOD	2.50	ug/L							
n-Nitrosopiperidine	BLOD	10.0	ug/L							
n-Nitrosopyrrolidine	BLOD	2.50	ug/L							
o,o,o-Triethyl phosphorothioate	BLOD	10.0	ug/L							
o,o-Diethyl o-2-pyrazinyl phosphorothioate	BLOD	10.0	ug/L							
o+m+p-Cresols	BLOD	10.0	ug/L							
o-Cresol	BLOD	10.0	ug/L							
o-Toluidine	BLOD	2.50	ug/L							
p-(Dimethylamino) azobenzene	BLOD	2.50	ug/L							
p-Chloro-m-cresol	BLOD	10.0	ug/L							
Pentachlorobenzene	BLOD	10.0	ug/L							
Pentachloronitrobenzene (quintozene)	BLOD	1.00	ug/L							
Phenacetin	BLOD	10.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Blank (BAD0224-BLK1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phorate	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
<i>Surr: 2,4,6-Tribromophenol</i>		63.2	ug/L	100		63.2	20-86			
<i>Surr: 2-Fluorobiphenyl</i>		32.9	ug/L	50.0		65.8	23-87			
<i>Surr: 2-Fluorophenol</i>		46.5	ug/L	100		46.5	10-52			
<i>Surr: Nitrobenzene-d5</i>		35.1	ug/L	50.0		70.2	10-98.5			
<i>Surr: Phenol-d5</i>		26.0	ug/L	100		26.0	5-33			
<i>Surr: p-Terphenyl-d14</i>		50.0	ug/L	50.0		99.9	27-133			

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4-Trichlorobenzene	43.6	10.0	ug/L	100		43.6	21.8-66.7			
1,2-Dichlorobenzene	45.2	10.0	ug/L	100		45.2	22-60			
1,3-Dichlorobenzene	45.7	10.0	ug/L	100		45.7	22-60			
1,4-Dichlorobenzene	43.8	10.0	ug/L	100		43.8	13-68			
1-Chloronaphthalene	53.8	10.0	ug/L				0-200			
2,4,6-Trichlorophenol	50.8	10.0	ug/L	100		50.8	50-115			
2,4-Dichlorophenol	46.4	10.0	ug/L	100		46.4	50-105			L
2,4-Dimethylphenol	46.6	0.50	ug/L	100		46.6	30-110			
2,4-Dinitrophenol	51.2	50.0	ug/L	100		51.2	15-140			
2,4-Dinitrotoluene	59.9	10.0	ug/L	100		59.9	21-99			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

2,6-Dinitrotoluene	56.2	10.0	ug/L	100		56.2	15-140			
2-Chloronaphthalene	46.4	10.0	ug/L	100		46.4	45-105			
2-Chlorophenol	48.3	10.0	ug/L	100		48.3	15-74			
2-Nitrophenol	48.7	10.0	ug/L	100		48.7	40-115			
3,3'-Dichlorobenzidine	102	10.0	ug/L	100		102	20-110			
4,6-Dinitro-2-methylphenol	57.7	50.0	ug/L	100		57.7	40-130			
4-Bromophenyl phenyl ether	59.1	10.0	ug/L	100		59.1	15-110			
4-Chlorophenyl phenyl ether	54.6	10.0	ug/L	100		54.6	15-110			
4-Nitrophenol	8.78	50.0	ug/L	100		8.78	0-125			
Acenaphthene	51.2	10.0	ug/L	100		51.2	27.7-85.5			
Acenaphthylene	50.8	10.0	ug/L	100		50.8	50-105			
Acetophenone	39.5	20.0	ug/L	100		39.5	0-200			
alpha-Terpineol	50.7	2.50	ug/L	100		50.7	0-200			
Anthracene	68.7	10.0	ug/L	100		68.7	55-110			
Benzo (a) anthracene	65.5	0.05	ug/L	100		65.5	55-110			
Benzo (a) pyrene	64.7	0.10	ug/L	100		64.7	55-110			
Benzo (b) fluoranthene	68.6	10.0	ug/L	100		68.6	45-120			
Benzo (g,h,i) perylene	63.8	10.0	ug/L	100		63.8	40-125			
Benzo (k) fluoranthene	78.5	10.0	ug/L	100		78.5	45-125			
bis (2-Chloroethoxy) methane	45.8	10.0	ug/L	100		45.8	40-125			
bis (2-Chloroethyl) ether	50.7	10.0	ug/L	100		50.7	40-125			
2,2'-Oxybis (1-chloropropane)	47.0	10.0	ug/L	100		47.0	40-125			
bis (2-Ethylhexyl) phthalate	80.6	2.50	ug/L	100		80.6	40-125			
Butyl benzyl phthalate	77.1	10.0	ug/L	100		77.1	45-115			
Carbazole	69.5	2.50	ug/L	100		69.5	0-200			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

Chrysene	72.3	10.0	ug/L	100		72.3	55-110			
Dibenz (a,h) anthracene	67.6	10.0	ug/L	100		67.6	40-125			
Diethyl phthalate	57.7	10.0	ug/L	100		57.7	40-120			
Dimethyl phthalate	51.5	10.0	ug/L	100		51.5	25-125			
Di-n-butyl phthalate	63.7	10.0	ug/L	100		63.7	55-115			
Di-n-octyl phthalate	95.7	10.0	ug/L	100		95.7	35-135			
Fluoranthene	65.0	10.0	ug/L	100		65.0	55-115			
Fluorene	57.2	10.0	ug/L	100		57.2	50-110			
Hexachlorobenzene	59.8	0.05	ug/L	100		59.8	25-125			
Hexachlorobutadiene	48.5	10.0	ug/L	100		48.5	25-125			
Hexachlorocyclopentadiene	42.0	10.0	ug/L	100		42.0	25-125			
Hexachloroethane	43.4	10.0	ug/L	100		43.4	25-125			
Indeno (1,2,3-cd) pyrene	66.2	10.0	ug/L	100		66.2	45-125			
Isophorone	52.3	10.0	ug/L	100		52.3	10-110			
Naphthalene	49.8	10.0	ug/L	100		49.8	40-100			
Nitrobenzene	50.8	10.0	ug/L	100		50.8	40-100			
n-Nitrosodimethylamine	21.2	10.0	ug/L	100		21.2	25-110			L
n-Nitrosodi-n-propylamine	53.0	10.0	ug/L	100		53.0	12-97			
n-Nitrosodiphenylamine	49.3	10.0	ug/L	100		49.3	12-97			
p-Chloro-m-cresol	50.8	10.0	ug/L	100		50.8	10-91			
Pentachlorophenol	51.8	20.0	ug/L	100		51.8	30-109			
Phenanthrene	64.4	10.0	ug/L	100		64.4	50-115			
Phenol	14.4	10.0	ug/L	101		14.3	0-115			
Pyrene	74.8	10.0	ug/L	100		74.8	27-110			
Pyridine	24.3	10.0	ug/L	100		24.3	0-200			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

LCS (BAD0224-BS1)

Prepared: 04/11/2017 Analyzed: 04/12/2017

<i>Surr: 2,4,6-Tribromophenol</i>	54.5		ug/L	100		54.5	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	22.3		ug/L	50.0		44.6	23-87			
<i>Surr: 2-Fluorophenol</i>	23.0		ug/L	100		23.0	10-52			
<i>Surr: Nitrobenzene-d5</i>	25.6		ug/L	50.0		51.1	10-98.5			
<i>Surr: Phenol-d5</i>	17.3		ug/L	100		17.3	5-33			
<i>Surr: p-Terphenyl-d14</i>	34.6		ug/L	50.0		69.2	27-133			

Matrix Spike (BAD0224-MS1)

Source: 17D0225-01

Prepared: 04/11/2017 Analyzed: 04/12/2017

1,2,4-Trichlorobenzene	83.8	11.1	ug/L	111	BLOD	75.4	21.8-66.7			M
1,2-Dichlorobenzene	84.8	11.1	ug/L	111	BLOD	76.3	22-60			M
1,3-Dichlorobenzene	91.2	11.1	ug/L	111	BLOD	82.1	22-60			M
1,4-Dichlorobenzene	87.4	11.1	ug/L	111	BLOD	78.7	22-60			M
1-Chloronaphthalene	108	11.1	ug/L		BLOD		0-200			
2,4,6-Trichlorophenol	100	11.1	ug/L	111	BLOD	90.2	50-115			
2,4-Dichlorophenol	93.4	11.1	ug/L	111	BLOD	84.0	50-105			
2,4-Dimethylphenol	84.0	0.56	ug/L	111	BLOD	75.6	30-110			
2,4-Dinitrophenol	90.3	55.6	ug/L	111	BLOD	81.2	15-140			
2,4-Dinitrotoluene	93.8	11.1	ug/L	111	BLOD	84.4	17-111			
2,6-Dinitrotoluene	90.2	11.1	ug/L	111	BLOD	81.2	15-140			
2-Chloronaphthalene	92.4	11.1	ug/L	111	BLOD	83.1	45-105			
2-Chlorophenol	87.8	11.1	ug/L	111	BLOD	79.1	19-64			M
2-Nitrophenol	91.5	11.1	ug/L	111	BLOD	82.4	40-115			
3,3'-Dichlorobenzidine	120	11.1	ug/L	111	BLOD	108	20-110			
4,6-Dinitro-2-methylphenol	95.9	55.6	ug/L	111	BLOD	86.3	40-130			
4-Bromophenyl phenyl ether	98.0	11.1	ug/L	111	BLOD	88.2	15-110			



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike (BAD0224-MS1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
4-Chlorophenyl phenyl ether	94.9	11.1	ug/L	111	BLOD	85.4	15-110			
4-Nitrophenol	BLOD	55.6	ug/L	111	BLOD		0-125			
Acenaphthene	95.8	11.1	ug/L	111	BLOD	86.2	24-90			
Acenaphthylene	95.9	11.1	ug/L	111	BLOD	86.3	50-105			
Acetophenone	68.3	22.2	ug/L	111	BLOD	61.5	0-200			
alpha-Terpineol	95.8	2.78	ug/L	111	BLOD	86.2	0-200			
Anthracene	110	11.1	ug/L	111	BLOD	99.2	55-110			
Benzo (a) anthracene	103	0.06	ug/L	111	BLOD	92.5	55-110			
Benzo (a) pyrene	111	0.11	ug/L	111	BLOD	100	55-110			
Benzo (b) fluoranthene	127	11.1	ug/L	111	BLOD	115	45-120			
Benzo (g,h,i) perylene	99.0	11.1	ug/L	111	BLOD	89.1	40-125			
Benzo (k) fluoranthene	131	11.1	ug/L	111	BLOD	118	45-125			
bis (2-Chloroethoxy) methane	86.9	11.1	ug/L	111	BLOD	78.2	40-125			
bis (2-Chloroethyl) ether	89.9	11.1	ug/L	111	BLOD	80.9	40-125			
2,2'-Oxybis (1-chloropropane)	86.6	11.1	ug/L	111	BLOD	78.0	40-125			
bis (2-Ethylhexyl) phthalate	129	2.78	ug/L	111	BLOD	116	40-125			
Butyl benzyl phthalate	120	11.1	ug/L	111	BLOD	108	45-115			
Carbazole	113	2.78	ug/L	111	BLOD	101	0-200			
Chrysene	114	11.1	ug/L	111	BLOD	102	55-110			
Dibenz (a,h) anthracene	110	11.1	ug/L	111	BLOD	98.8	40-125			
Diethyl phthalate	96.7	11.1	ug/L	111	BLOD	87.0	40-120			
Dimethyl phthalate	85.9	11.1	ug/L	111	BLOD	77.3	25-125			
Di-n-butyl phthalate	103	11.1	ug/L	111	BLOD	92.6	55-115			
Di-n-octyl phthalate	172	11.1	ug/L	111	BLOD	154	35-135			
Fluoranthene	104	11.1	ug/L	111	BLOD	94.0	55-115			M



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike (BAD0224-MS1)

Source: 17D0225-01

Prepared: 04/11/2017 Analyzed: 04/12/2017

Fluorene	99.1	11.1	ug/L	111	BLOD	89.2	50-110			
Hexachlorobenzene	94.7	0.06	ug/L	111	BLOD	85.3	25-125			
Hexachlorobutadiene	100	11.1	ug/L	111	BLOD	90.3	25-125			
Hexachlorocyclopentadiene	68.1	11.1	ug/L	111	BLOD	61.3	25-125			
Hexachloroethane	85.8	11.1	ug/L	111	BLOD	77.2	25-125			
Indeno (1,2,3-cd) pyrene	107	11.1	ug/L	111	BLOD	96.0	45-125			
Isophorone	98.4	11.1	ug/L	111	BLOD	88.5	10-110			
Naphthalene	94.4	11.1	ug/L	111	BLOD	84.9	40-100			
Nitrobenzene	90.3	11.1	ug/L	111	BLOD	81.3	40-100			
n-Nitrosodimethylamine	44.5	11.1	ug/L	111	BLOD	40.0	25-110			
n-Nitrosodi-n-propylamine	98.8	11.1	ug/L	111	BLOD	88.9	12-97			
n-Nitrosodiphenylamine	76.3	11.1	ug/L	111	BLOD	68.7	12-97			
p-Chloro-m-cresol	93.4	11.1	ug/L	111	BLOD	84.1	10-91			
Pentachlorophenol	116	22.2	ug/L	111	BLOD	104	27-109			
Phenanthrene	105	11.1	ug/L	111	BLOD	94.2	50-115			
Phenol	39.2	11.1	ug/L	112	BLOD	34.9	0-115			
Pyrene	116	11.1	ug/L	111	BLOD	104	23-110			
Pyridine	36.4	11.1	ug/L	111	BLOD	32.8	0-200			
<hr/>										
<i>Surr: 2,4,6-Tribromophenol</i>	92.4		ug/L	111		83.2	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	42.4		ug/L	55.6		76.3	23-87			
<i>Surr: 2-Fluorophenol</i>	46.2		ug/L	111		41.6	10-52			
<i>Surr: Nitrobenzene-d5</i>	44.2		ug/L	55.6		79.5	10-98.5			
<i>Surr: Phenol-d5</i>	38.5		ug/L	111		34.7	5-33			S
<i>Surr: p-Terphenyl-d14</i>	56.1		ug/L	55.6		101	27-133			



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
1,2,4-Trichlorobenzene	49.0	11.1	ug/L	111	BLOD	44.1	21.8-66.7	52.3	20	P
1,2-Dichlorobenzene	52.1	11.1	ug/L	111	BLOD	46.9	22-60	47.7	20	P
1,3-Dichlorobenzene	56.1	11.1	ug/L	111	BLOD	50.5	22-60	47.6	20	P
1,4-Dichlorobenzene	53.8	11.1	ug/L	111	BLOD	48.4	22-60	47.7	20	P
1-Chloronaphthalene	59.6	11.1	ug/L		BLOD		0-200	58.0	20	P
2,4,6-Trichlorophenol	58.4	11.1	ug/L	111	BLOD	52.6	50-115	52.8	20	P
2,4-Dichlorophenol	50.8	11.1	ug/L	111	BLOD	45.8	50-105	59.0	20	M, P
2,4-Dimethylphenol	48.6	0.56	ug/L	111	BLOD	43.7	30-110	53.5	20	P
2,4-Dinitrophenol	61.5	55.6	ug/L	111	BLOD	55.3	15-140	38.0	20	P
2,4-Dinitrotoluene	68.4	11.1	ug/L	111	BLOD	61.6	17-111	31.3	20	P
2,6-Dinitrotoluene	61.2	11.1	ug/L	111	BLOD	55.1	15-140	38.4	20	P
2-Chloronaphthalene	51.3	11.1	ug/L	111	BLOD	46.2	45-105	57.1	20	P
2-Chlorophenol	55.3	11.1	ug/L	111	BLOD	49.7	19-64	45.5	20	P
2-Nitrophenol	53.7	11.1	ug/L	111	BLOD	48.3	40-115	52.2	20	P
3,3'-Dichlorobenzidine	88.1	11.1	ug/L	111	BLOD	79.3	20-110	31.1	20	P
4,6-Dinitro-2-methylphenol	67.1	55.6	ug/L	111	BLOD	60.4	40-130	35.4	20	P
4-Bromophenyl phenyl ether	66.0	11.1	ug/L	111	BLOD	59.4	15-110	38.9	20	P
4-Chlorophenyl phenyl ether	59.3	11.1	ug/L	111	BLOD	53.4	15-110	46.1	20	P
4-Nitrophenol	21.2	55.6	ug/L	111	BLOD	19.0	0-125		20	
Acenaphthene	54.5	11.1	ug/L	111	BLOD	49.0	24-90	55.0	20	P
Acenaphthylene	54.4	11.1	ug/L	111	BLOD	49.0	50-105	55.1	20	M, P
Acetophenone	43.9	22.2	ug/L	111	BLOD	39.5	0-200	43.5	20	P
alpha-Terpineol	55.2	2.78	ug/L	111	BLOD	49.7	0-200	53.7	20	P
Anthracene	79.2	11.1	ug/L	111	BLOD	71.3	55-110	32.7	20	P
Benzo (a) anthracene	75.1	0.06	ug/L	111	BLOD	67.6	55-110	31.1	20	P



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
Benzo (a) pyrene	75.0	0.11	ug/L	111	BLOD	67.5	55-110	38.8	20	P
Benzo (b) fluoranthene	89.3	11.1	ug/L	111	BLOD	80.4	45-120	35.0	20	P
Benzo (g,h,i) perylene	66.8	11.1	ug/L	111	BLOD	60.2	40-125	38.8	20	P
Benzo (k) fluoranthene	84.7	11.1	ug/L	111	BLOD	76.2	45-125	42.8	20	P
bis (2-Chloroethoxy) methane	49.8	11.1	ug/L	111	BLOD	44.9	40-125	54.2	20	P
bis (2-Chloroethyl) ether	56.0	11.1	ug/L	111	BLOD	50.4	40-125	46.6	20	P
2,2'-Oxybis (1-chloropropane)	53.2	11.1	ug/L	111	BLOD	47.9	40-125	47.8	20	P
bis (2-Ethylhexyl) phthalate	94.6	2.78	ug/L	111	BLOD	85.2	40-125	30.5	20	P
Butyl benzyl phthalate	90.7	11.1	ug/L	111	BLOD	81.7	45-115	28.0	20	P
Carbazole	80.5	2.78	ug/L	111	BLOD	72.5	0-200	33.1	20	P
Chrysene	81.6	11.1	ug/L	111	BLOD	73.4	55-110	32.7	20	P
Dibenz (a,h) anthracene	71.3	11.1	ug/L	111	BLOD	64.2	40-125	42.4	20	P
Diethyl phthalate	66.9	11.1	ug/L	111	BLOD	60.2	40-120	36.4	20	P
Dimethyl phthalate	56.6	11.1	ug/L	111	BLOD	51.0	25-125	41.0	20	P
Di-n-butyl phthalate	72.5	11.1	ug/L	111	BLOD	65.2	55-115	34.6	20	P
Di-n-octyl phthalate	121	11.1	ug/L	111	BLOD	109	35-135	34.2	20	P
Fluoranthene	74.3	11.1	ug/L	111	BLOD	66.9	55-115	33.7	20	P
Fluorene	63.3	11.1	ug/L	111	BLOD	56.9	50-110	44.2	20	P
Hexachlorobenzene	68.1	0.06	ug/L	111	BLOD	61.3	25-125	32.8	20	P
Hexachlorobutadiene	56.0	11.1	ug/L	111	BLOD	50.4	25-125	56.7	20	P
Hexachlorocyclopentadiene	39.7	11.1	ug/L	111	BLOD	35.7	25-125	52.8	20	P
Hexachloroethane	51.3	11.1	ug/L	111	BLOD	46.2	25-125	50.3	20	P
Indeno (1,2,3-cd) pyrene	70.7	11.1	ug/L	111	BLOD	63.6	45-125	40.6	20	P
Isophorone	55.4	11.1	ug/L	111	BLOD	49.9	10-110	55.8	20	P
Naphthalene	57.4	11.1	ug/L	111	BLOD	51.7	40-100	48.7	20	P



Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0224 - SW1311 SVOC

Matrix Spike Dup (BAD0224-MSD1)	Source: 17D0225-01		Prepared: 04/11/2017 Analyzed: 04/12/2017							
Nitrobenzene	57.3	11.1	ug/L	111	BLOD	51.6	40-100	44.7	20	P
n-Nitrosodimethylamine	27.3	11.1	ug/L	111	BLOD	24.6	25-110	47.8	20	P
n-Nitrosodi-n-propylamine	61.2	11.1	ug/L	111	BLOD	55.1	12-97	47.0	20	P
n-Nitrosodiphenylamine	54.9	11.1	ug/L	111	BLOD	49.4	12-97	32.6	20	P
p-Chloro-m-cresol	59.8	11.1	ug/L	111	BLOD	53.8	10-91	43.9	20	P
Pentachlorophenol	81.6	22.2	ug/L	111	BLOD	73.4	27-109	34.8	20	P
Phenanthrene	74.9	11.1	ug/L	111	BLOD	67.4	50-115	33.1	20	P
Phenol	20.4	11.1	ug/L	112	BLOD	18.2	0-115	63.0	20	P
Pyrene	90.9	11.1	ug/L	111	BLOD	81.9	23-110	23.9	20	P
Pyridine	25.3	11.1	ug/L	111	BLOD	22.8	0-200	36.1	20	P
<hr/>										
<i>Surr: 2,4,6-Tribromophenol</i>	66.1		ug/L	111		59.5	20-86			
<i>Surr: 2-Fluorobiphenyl</i>	24.0		ug/L	55.6		43.2	23-87			
<i>Surr: 2-Fluorophenol</i>	26.0		ug/L	111		23.4	10-52			
<i>Surr: Nitrobenzene-d5</i>	28.4		ug/L	55.6		51.1	10-98.5			
<i>Surr: Phenol-d5</i>	23.9		ug/L	111		21.5	5-33			
<i>Surr: p-Terphenyl-d14</i>	42.1		ug/L	55.6		75.7	27-133			



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0190 - SW3510C

Blank (BAD0190-BLK1)

Prepared: 04/10/2017 Analyzed: 04/17/2017

PCB as Aroclor 1016	BLOD	0.200	ug/L							
4,4'-DDD	BLOD	0.050	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							
PCB as Aroclor 1242	BLOD	0.200	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							
4,4'-DDT	BLOD	0.050	ug/L							
PCB as Aroclor 1254	BLOD	0.200	ug/L							
PCB as Aroclor 1260	BLOD	0.200	ug/L							
Aldrin	BLOD	0.050	ug/L							
alpha-BHC	BLOD	0.050	ug/L							
beta-BHC	BLOD	0.050	ug/L							
Chlordane	BLOD	0.200	ug/L							
delta-BHC	BLOD	0.050	ug/L							
Dieldrin	BLOD	0.050	ug/L							
Endosulfan I	BLOD	0.050	ug/L							
Endosulfan II	BLOD	0.050	ug/L							
Endosulfan sulfate	BLOD	0.050	ug/L							
Endrin	BLOD	0.050	ug/L							
Endrin aldehyde	BLOD	0.050	ug/L							
gamma-BHC (Lindane)	BLOD	0.050	ug/L							
Heptachlor	BLOD	0.050	ug/L							
Heptachlor epoxide	BLOD	0.050	ug/L							
Methoxychlor	BLOD	0.050	ug/L							



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0190 - SW3510C

Blank (BAD0190-BLK1)

Prepared: 04/10/2017 Analyzed: 04/17/2017

Toxaphene	BLOD	1.00	ug/L							
<i>Surr: DCB</i>	<i>0.0900</i>		ug/L	<i>0.200</i>		<i>45.0</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.100</i>		ug/L	<i>0.200</i>		<i>50.0</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.100</i>		ug/L	<i>0.200</i>		<i>50.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.0900</i>		ug/L	<i>0.200</i>		<i>45.0</i>	<i>27-131</i>			

LCS (BAD0190-BS1)

Prepared: 04/10/2017 Analyzed: 04/17/2017

4,4'-DDD	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDE	0.080	0.050	ug/L	0.100		80.0	23-134			
4,4'-DDT	0.080	0.050	ug/L	0.100		80.0	23-134			
Aldrin	0.060	0.050	ug/L	0.100		60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
delta-BHC	0.080	0.050	ug/L	0.100		80.0	23-134			
Dieldrin	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.060	0.050	ug/L	0.100		60.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Endrin	0.090	0.050	ug/L	0.100		90.0	23-134			
Endrin aldehyde	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.080	0.050	ug/L	0.100		80.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.070	0.050	ug/L	0.100		70.0	23-134			
Methoxychlor	0.090	0.050	ug/L	0.100		90.0	23-134			
Mirex	0.070	0.050	ug/L	0.100		70.0	23-134			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0190 - SW3510C										
LCS (BAD0190-BS1)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.140		ug/L	0.200		70.0	27-131			
LCS (BAD0190-BS2)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
PCB as Aroclor 1016	0.730	0.200	ug/L	1.00		73.0	40-90			
PCB as Aroclor 1260	0.710	0.200	ug/L	1.00		71.0	40-90			
Surr: DCB	0.100		ug/L	0.200		50.0	30-105			
Surr: TCMX	0.100		ug/L	0.200		50.0	30-105			
LCS (BAD0190-BS3)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Toxaphene	1.35	1.00	ug/L	2.50		54.0	23-134			
LCS (BAD0190-BS4)										
				Prepared: 04/10/2017 Analyzed: 04/17/2017						
Chlordane	1.43	0.200	ug/L	2.50		57.2	23-134			
Matrix Spike (BAD0190-MS1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
4,4'-DDD	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
4,4'-DDE	0.133	0.056	ug/L	0.111	BLOD	120	23-134			
4,4'-DDT	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
Aldrin	0.056	0.056	ug/L	0.111	BLOD	50.0	23-134			
alpha-BHC	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
beta-BHC	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
delta-BHC	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
Dieldrin	0.111	0.056	ug/L	0.111	BLOD	100	23-134			
Endosulfan I	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
Endosulfan II	0.100	0.056	ug/L	0.111	BLOD	90.0	23-134			
Endosulfan sulfate	0.122	0.056	ug/L	0.111	BLOD	110	23-134			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0190 - SW3510C										
Matrix Spike (BAD0190-MS1)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
Endrin	0.122	0.056	ug/L	0.111	BLOD	110	23-134			
Endrin aldehyde	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
gamma-BHC (Lindane)	0.133	0.056	ug/L	0.111	BLOD	120	23-134			
Heptachlor	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
Heptachlor epoxide	0.089	0.056	ug/L	0.111	BLOD	80.0	23-134			
Methoxychlor	0.122	0.056	ug/L	0.111	BLOD	110	23-134			
Mirex	0.078	0.056	ug/L	0.111	BLOD	70.0	23-134			
<i>Surr: TCMX</i>	<i>0.111</i>		ug/L	<i>0.222</i>		<i>50.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.244</i>		ug/L	<i>0.222</i>		<i>110</i>	<i>27-131</i>			
Matrix Spike (BAD0190-MS2)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
PCB as Aroclor 1016	5.46	0.208	ug/L	1.04	BLOD	524	40-120			M
PCB as Aroclor 1260	1.01	0.208	ug/L	1.04	BLOD	97.0	40-120			
<i>Surr: DCB</i>	<i>0.167</i>		ug/L	<i>0.208</i>		<i>80.0</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.135</i>		ug/L	<i>0.208</i>		<i>65.0</i>	<i>30-105</i>			
Matrix Spike Dup (BAD0190-MSD1)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
4,4'-DDD	0.106	0.053	ug/L	0.106	BLOD	100	23-134	6.19	20	
4,4'-DDE	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
4,4'-DDT	0.117	0.053	ug/L	0.106	BLOD	110	23-134	15.7	20	
Aldrin	0.085	0.053	ug/L	0.106	BLOD	80.0	23-134	42.0	20	P
alpha-BHC	0.106	0.053	ug/L	0.106	BLOD	100	23-134	17.9	20	
beta-BHC	0.181	0.053	ug/L	0.106	BLOD	170	23-134	57.6	20	M, P
delta-BHC	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	20.7	20	P
Dieldrin	0.128	0.053	ug/L	0.106	BLOD	120	23-134	13.9	20	
Endosulfan I	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	7.43	20	



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0190 - SW3510C

Matrix Spike Dup (BAD0190-MSD1)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
Endosulfan II	0.106	0.053	ug/L	0.106	BLOD	100	23-134	6.19	20	
Endosulfan sulfate	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Endrin	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Endrin aldehyde	0.106	0.053	ug/L	0.106	BLOD	100	23-134	17.9	20	
gamma-BHC (Lindane)	0.160	0.053	ug/L	0.106	BLOD	150	23-134	17.9	20	M
Heptachlor	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	20.7	20	P
Heptachlor epoxide	0.096	0.053	ug/L	0.106	BLOD	90.0	23-134	7.43	20	
Methoxychlor	0.128	0.053	ug/L	0.106	BLOD	120	23-134	4.35	20	
Mirex	0.074	0.053	ug/L	0.106	BLOD	70.0	23-134	4.35	20	
<i>Surr: TCMX</i>	<i>0.138</i>		<i>ug/L</i>	<i>0.213</i>		<i>65.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.266</i>		<i>ug/L</i>	<i>0.213</i>		<i>125</i>	<i>27-131</i>			
Matrix Spike Dup (BAD0190-MSD2)		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/17/2017					
PCB as Aroclor 1016	6.51	0.222	ug/L	1.11	BLOD	586	40-120	17.6	20	M
PCB as Aroclor 1260	1.48	0.222	ug/L	1.11	BLOD	133	40-120	37.6	20	M, P
<i>Surr: DCB</i>	<i>0.222</i>		<i>ug/L</i>	<i>0.222</i>		<i>100</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.122</i>		<i>ug/L</i>	<i>0.222</i>		<i>55.0</i>	<i>30-105</i>			



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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0201 - SW3510C										
Blank (BAD0201-BLK1)										
				Prepared: 04/10/2017 Analyzed: 04/14/2017						
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Pentachlorophenol	BLOD	0.500	ug/L							
<i>Surr: DCAA</i>	<i>1.11</i>		ug/L	<i>1.11</i>		<i>100</i>	<i>60-112</i>			
LCS (BAD0201-BS1)										
				Prepared: 04/10/2017 Analyzed: 04/14/2017						
2,4,5-T	0.611	0.500	ug/L	0.556		110	53-144			
2,4,5-TP (Silvex)	0.611	0.500	ug/L	0.556		110	52-129			
2,4-D	0.611	0.500	ug/L	0.556		110	53-126			
Dinoseb	0.389	0.500	ug/L	0.556		70.0	60-137			
Pentachlorophenol	0.500	0.500	ug/L	0.556		90.0	52-124			
<i>Surr: DCAA</i>	<i>1.17</i>		ug/L	<i>1.11</i>		<i>105</i>	<i>60-112</i>			
Matrix Spike (BAD0201-MS1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/14/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129			
2,4-D	0.556	0.500	ug/L	0.556	BLOD	100	53-126			
Dinoseb	0.500	0.500	ug/L	0.556	BLOD	90.0	60-137			
Pentachlorophenol	0.444	0.500	ug/L	0.556	BLOD	80.0	52-124			
<i>Surr: DCAA</i>	<i>2.11</i>		ug/L	<i>1.11</i>		<i>190</i>	<i>60-112</i>			S
Matrix Spike Dup (BAD0201-MSD1)										
		Source: 17D0225-01			Prepared: 04/10/2017 Analyzed: 04/14/2017					
2,4,5-T	0.500	0.500	ug/L	0.556	BLOD	90.0	53-144	0.00	20	
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.556	BLOD	100	52-129	0.00	20	



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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0201 - SW3510C

Matrix Spike Dup (BAD0201-MSD1)	Source: 17D0225-01		Prepared: 04/10/2017 Analyzed: 04/14/2017							
2,4-D	0.500	0.500	ug/L	0.556	BLOD	90.0	53-126	10.5	20	
Dinoseb	0.500	0.500	ug/L	0.556	BLOD	90.0	60-137	0.00	20	
Pentachlorophenol	0.667	0.500	ug/L	0.556	BLOD	120	52-124	40.0	20	P
<i>Surr: DCAA</i>	<i>2.06</i>		ug/L	<i>1.11</i>		<i>185</i>	<i>60-112</i>			<i>S</i>



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Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0162 - SW8011										
Blank (BAD0162-BLK1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	BLOD	0.010	ug/L							
1,2,3-Trichloropropane	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BLOD	0.010	ug/L							
LCS (BAD0162-BS1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	0.241	0.010	ug/L	0.250		96.5	65-135			
1,2,3-Trichloropropane	0.251	0.010	ug/L	0.250		100	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.250		119	65-135			
LCS Dup (BAD0162-BSD1)				Prepared: 04/07/2017 Analyzed: 04/08/2017						
1,2-Dibromoethane (EDB)	0.270	0.010	ug/L	0.250		108	65-135	11.2	20	
1,2,3-Trichloropropane	0.298	0.010	ug/L	0.250		119	65-135	17.0	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.336	0.010	ug/L	0.250		134	65-135	12.0	20	
Matrix Spike (BAD0162-MS1)				Source: 17D0167-11		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.202	0.010	ug/L	0.248	BLOD	81.7	65-135			
1,2,3-Trichloropropane	0.201	0.010	ug/L	0.248	BLOD	81.4	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.223	0.010	ug/L	0.248	BLOD	89.9	65-135			
Matrix Spike (BAD0162-MS2)				Source: 17D0225-01		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.279	0.010	ug/L	0.255	BLOD	109	65-135			
1,2,3-Trichloropropane	0.234	0.010	ug/L	0.255	BLOD	91.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.372	0.010	ug/L	0.255	BLOD	146	65-135			M
Matrix Spike Dup (BAD0162-MSD1)				Source: 17D0167-11		Prepared: 04/07/2017 Analyzed: 04/08/2017				
1,2-Dibromoethane (EDB)	0.228	0.010	ug/L	0.251	BLOD	91.0	65-135	12.1	20	
1,2,3-Trichloropropane	0.235	0.010	ug/L	0.251	BLOD	93.7	65-135	15.4	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.249	0.010	ug/L	0.251	BLOD	99.3	65-135	11.2	20	



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Micro-extractables by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAD0162 - SW8011

Matrix Spike Dup (BAD0162-MSD2)	Source: 17D0225-01		Prepared: 04/07/2017 Analyzed: 04/08/2017							
1,2-Dibromoethane (EDB)	0.286	0.010	ug/L	0.252	BLOD	113	65-135	2.32	20	
1,2,3-Trichloropropane	0.243	0.010	ug/L	0.252	BLOD	96.6	65-135	4.02	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.369	0.010	ug/L	0.252	BLOD	147	65-135	0.813	20	M



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0234 - No Prep Wet Chem										
Blank (BAD0234-BLK1)				Prepared & Analyzed: 04/11/2017						
Sulfide	BLOD	1.00	mg/L							
LCS (BAD0234-BS1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.55	1	mg/L	5.00		91.0	80-120			
LCS Dup (BAD0234-BSD1)				Prepared & Analyzed: 04/11/2017						
Sulfide	4.69	1	mg/L	5.00		93.8	80-120	3.03	20	
Matrix Spike (BAD0234-MS1)				Source: 17D0167-11 Prepared & Analyzed: 04/11/2017						
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125			
Matrix Spike (BAD0234-MS2)				Source: 17D0225-01 Prepared & Analyzed: 04/11/2017						
Sulfide	4.77	1.00	mg/L	5.00	BLOD	95.4	75-125			
Matrix Spike Dup (BAD0234-MSD1)				Source: 17D0167-11 Prepared & Analyzed: 04/11/2017						
Sulfide	5.10	1.00	mg/L	5.00	BLOD	102	75-125	4.00	20	
Matrix Spike Dup (BAD0234-MSD2)				Source: 17D0225-01 Prepared & Analyzed: 04/11/2017						
Sulfide	4.90	1.00	mg/L	5.00	BLOD	98.0	75-125	2.69	20	
Batch BAD0298 - No Prep Wet Chem										
Blank (BAD0298-BLK1)				Prepared & Analyzed: 04/13/2017						
Cyanide	BLOD	0.01	mg/L							
LCS (BAD0298-BS1)				Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250		97.9	80-120			



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAD0298 - No Prep Wet Chem										
LCS Dup (BAD0298-BSD1)				Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250		97.6	80-120	0.286	20	
Matrix Spike (BAD0298-MS2)				Source: 17D0228-03 Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	94.7	80-120			
Matrix Spike Dup (BAD0298-MSD2)				Source: 17D0228-03 Prepared & Analyzed: 04/13/2017						
Cyanide	0.24	0.01	mg/L	0.250	BLOD	96.6	80-120	1.92	20	



Certificate of Analysis

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
17D0221-01	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0221-02	50.0 mL / 50.0 mL	SW6020A	BAD0169	SAD0187	AD70034
17D0221-01	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0221-01RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
17D0221-02	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0194	AD70031
17D0221-02RE1	50.0 mL / 50.0 mL	SW6010C	BAD0174	SAD0242	AD70046
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
17D0221-01	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0221-02	6.00 mL / 6.00 mL	SW9215	BAD0234	SAD0223	
17D0221-01	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057
17D0221-02	6.00 mL / 6.00 mL	SW9012B	BAD0298	SAD0305	AD70057
Semivolatile Organic Compounds by GCMS			Preparation Method: SW1311 SVOC		
17D0221-01	920 mL / 1.00 mL	SW8270D	BAD0224	SAD0314	AC70073
17D0221-02	920 mL / 1.00 mL	SW8270D	BAD0224	SAD0281	AC70073
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method: SW3510C		
17D0221-01	940 mL / 1.00 mL	SW8081B	BAD0190	SAD0450	AA70059
17D0221-02	930 mL / 1.00 mL	SW8081B	BAD0190	SAD0450	AA70059
17D0221-01	940 mL / 1.00 mL	SW8082A	BAD0190	SAD0451	AA70064



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method: SW3510C		
17D0221-02	930 mL / 1.00 mL	SW8082A	BAD0190	SAD0451	AA70064
17D0221-01	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
17D0221-02	900 mL / 5.00 mL	SW8151A	BAD0201	SAD0427	AC70135
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
17D0221-01	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0221-02	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
17D0221-03	5.00 mL / 5.00 mL	SW8260B	BAD0186	SAD0214	AC70157
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17D0221-01	20.0 mL / 20.0 mL	SW7470A	BAD0222	SAD0253	AD70047
17D0221-02	20.0 mL / 20.0 mL	SW7470A	BAD0222	SAD0253	AD70047
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
17D0221-01	60.9 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0221-02	58.6 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054
17D0221-03	57.8 mL / 2.00 mL	SW8011	BAD0162	SAD0163	AB70054



Certificate of Analysis

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Date Issued: 4/20/2017 2:51:57PM

Certified Analyses included in this Report

Analyte	Certifications
SW6010C in Non-Potable Water	
Barium	VELAP,WVDEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
SW6020A in Non-Potable Water	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Thallium	VELAP,WVDEP
SW7470A in Non-Potable Water	
Mercury	VELAP,NC,WVDEP
SW8011 in Non-Potable Water	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
SW8081B in Non-Potable Water	
4,4'-DDD	NC,VELAP,WVDEP



Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certifications
4,4'-DDE	NC,VELAP,WVDEP
4,4'-DDT	NC,VELAP,WVDEP
Aldrin	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
SW8082A in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC



Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silvex)	VELAP,NC
2,4-D	VELAP,NC
Dinoseb	VELAP,NC
Pentachlorophenol	VELAP,NC
SW8260B in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP



Certificate of Analysis

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Allyl chloride	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
Chloroprene	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethyl methacrylate	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Hexachlorobutadiene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
Isobutyl Alcohol	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methacrylonitrile	NC,VELAP,WVDEP
Methyl methacrylate	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
SW8270D in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC,WVDEP
1,3,5-Trinitrobenzene	NC,WVDEP
1,3-Dinitrobenzene	NC,WVDEP
1,4-Naphthoquinone	NC,WVDEP
1-Naphthylamine	NC,WVDEP
2,3,4,6-Tetrachlorophenol	NC,WVDEP
2,4,5-Trichlorophenol	NC,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,WVDEP
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,WVDEP



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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
2-Chloronaphthalene	NC,VELAP,WVDEP
2-Chlorophenol	NC,VELAP,WVDEP
2-Methylnaphthalene	NC,WVDEP
2-Naphthylamine	NC,WVDEP
2-Nitroaniline	NC,WVDEP
2-Nitrophenol	NC,VELAP,WVDEP
3,3'-Dichlorobenzidine	NC,VELAP,WVDEP
3,3'-Dimethylbenzidine	NC,WVDEP
3-Methylcholanthrene	NC,WVDEP
3-Nitroaniline	NC,WVDEP
4,6-Dinitro-2-methylphenol	NC,VELAP,WVDEP
4-Aminobiphenyl	NC,WVDEP
4-Bromophenyl phenyl ether	NC,VELAP,WVDEP
4-Chloroaniline	NC,WVDEP
4-Chlorophenyl phenyl ether	NC,VELAP,WVDEP
4-Nitroaniline	NC,WVDEP
4-Nitrophenol	NC,VELAP,WVDEP
5-Nitro-o-toluidine	NC,WVDEP
7,12-Dimethylbenz (a) anthracene	NC,WVDEP
Acenaphthene	NC,VELAP,WVDEP
Acenaphthylene	NC,VELAP,WVDEP
Acetophenone	NC,WVDEP
Anthracene	NC,VELAP,WVDEP
Benzo (a) anthracene	NC,VELAP,WVDEP
Benzo (a) pyrene	NC,VELAP,WVDEP
Benzo (b) fluoranthene	NC,VELAP,WVDEP
Benzo (g,h,i) perylene	NC,VELAP,WVDEP
Benzo (k) fluoranthene	NC,VELAP,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
Benzyl alcohol	NC, WVDEP
bis (2-Chloroethoxy) methane	NC, VELAP, WVDEP
bis (2-Chloroethyl) ether	NC, VELAP, WVDEP
2,2'-Oxybis (1-chloropropane)	NC, VELAP, WVDEP
bis (2-Ethylhexyl) phthalate	NC, VELAP, WVDEP
Butyl benzyl phthalate	NC, VELAP, WVDEP
Chlorobenzilate	NC, WVDEP
Chrysene	NC, VELAP, WVDEP
Diallate	NC, WVDEP
Dibenz (a,h) anthracene	NC, VELAP, WVDEP
Dibenzofuran	NC, WVDEP
Diethyl phthalate	NC, VELAP, WVDEP
Dimethoate	NC, WVDEP
Dimethyl phthalate	NC, VELAP, WVDEP
Di-n-butyl phthalate	NC, VELAP, WVDEP
Di-n-octyl phthalate	NC, VELAP, WVDEP
Diphenylamine	NC, WVDEP
Disulfoton	NC, WVDEP
Ethyl methanesulfonate	NC, WVDEP
Ethyl parathion	NC, WVDEP
Famphur	NC, WVDEP
Fluoranthene	NC, VELAP, WVDEP
Fluorene	NC, VELAP, WVDEP
Hexachlorobenzene	NC, VELAP, WVDEP
Hexachlorobutadiene	NC, VELAP, WVDEP
Hexachlorocyclopentadiene	NC, VELAP, WVDEP
Hexachloroethane	NC, VELAP, WVDEP
Hexachloropropene	NC, WVDEP



Certificate of Analysis

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
Isodrin	NC,WVDEP
Isophorone	NC,VELAP,WVDEP
Isosafrole	NC,WVDEP
Kepone	NC,WVDEP
m+p-Cresols	NC,WVDEP
Methapyrilene	NC,WVDEP
Methyl methanesulfonate	NC,WVDEP
Methyl parathion	NC,WVDEP
Naphthalene	NC,VELAP,WVDEP
Nitrobenzene	NC,VELAP,WVDEP
n-Nitrosodiethylamine	NC,WVDEP
n-Nitrosodimethylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-butylamine	NC,WVDEP
n-Nitrosodi-n-propylamine	NC,VELAP,WVDEP
n-Nitrosodiphenylamine	NC,VELAP,WVDEP
n-Nitrosomethylethylamine	NC,WVDEP
n-Nitrosopiperidine	NC,WVDEP
n-Nitrosopyrrolidine	NC,WVDEP
o,o,o-Triethyl phosphorothioate	NC,WVDEP
o,o-Diethyl o-2-pyrazinyl phosphorothioate	NC,WVDEP
o+m+p-Cresols	NC,WVDEP
o-Cresol	NC,VELAP,WVDEP
o-Toluidine	NC,WVDEP
p-(Dimethylamino) azobenzene	NC,WVDEP
p-Chloro-m-cresol	NC,VELAP,WVDEP
Pentachlorobenzene	NC,WVDEP
Pentachloronitrobenzene (quintozene)	NC,WVDEP



Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certifications
Phenacetin	NC, WVDEP
Phenanthrene	NC, VELAP, WVDEP
Phenol	NC, VELAP, WVDEP
Phorate	NC, WVDEP
p-Phenylenediamine	NC, WVDEP
Pronamide	NC, WVDEP
Pyrene	NC, VELAP, WVDEP
Safrole	NC, WVDEP
SW9012B in Non-Potable Water	
Cyanide	VELAP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #9035	460021	06/15/2017
WVDEP	West Virginia DEP	350	11/30/2017

Certificate of Analysis

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Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



148 SCHWERT ROAD
 BHO-BOND, VIRGINIA 22007
 (800) 228-8285 PHONE
 (800) 228-8283 FAX

CHAIN OF CUSTODY

Page 1 of 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Caloper Environmental Services	PROJECT NAME: Quaker II Caloper DIT Conclosure
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill
ADDRESS: 1804 Dendy Lane, Richmond, VA 23228	INVOICE ADDRESS: 1111 New South Street, Suite 101, Caloper, VA 23001	PROJECT NUMBER: 21-01729.02.01
PHONE #: (804) 555-4000	INVOICE PHONE #: (804) 707-2688	P.O. #:
FAX #: (804) 555-4002	EMAIL: info@joyceeng.com	Preservation Program: 12:

Is sample for compliance reporting? YES NO Is sample from a regulated supply? YES NO PRES. U.S. #:

SAMPLER NAME (PRINT): *M. J. White* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Days

Well Codes: #1=North Star/Storm Water #2=Oxley/Storm #3=Oxley/Storm #4=Oxley/Storm #5=Oxley/Storm #6=Oxley/Storm #7=Oxley/Storm

CLIENT SAMPLE ID	Chain of Custody	Composite	Initial Witness (Continuous Monitoring)	Composite Start Date	Composite Stop Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Reported	Matrix (If not Default)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS	
											VSWM Table 3.1 Column B	VSWM Table 3.1 Column B VOC's						
1) Equipment Blank	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>							
2) Field Blank	<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>							
3) Trip Blank												<input checked="" type="checkbox"/>						
4)																		
5)																		
6)																		
7)																		
8)																		
9)																		

<i>[Signature]</i>	DATE/TIME: 4/12/17 17:00	INITIALS: <i>[Signature]</i>	DATE/TIME: 4/12/17 17:00	GC Data Package	LAB USE ONLY	COOLER TEMP: _____ °C
<i>[Signature]</i>	DATE/TIME: 4/12/17 17:00	INITIALS: <i>[Signature]</i>	DATE/TIME: 4/12/17 17:00		JEL-R	17040.21
<i>[Signature]</i>	DATE/TIME: 4/12/17 17:00	INITIALS: <i>[Signature]</i>	DATE/TIME: 4/12/17 17:00		Laurel Valley Compliance Wells	
<i>[Signature]</i>	DATE/TIME: 4/12/17 17:00	INITIALS: <i>[Signature]</i>	DATE/TIME: 4/12/17 17:00		Revd: 04/06/2017 Desc: 04/28/2017	



Example 2 - Technical Work Log

Log Period: _____

Project: _____

DATE: _____
TIME: _____

Date	Project		Location	Activity		Time	Weather	Wind	Temp	Humidity	Clouds	Visibility	Remarks
	Start	End		Start	End								
10/10/20	08:00	12:00	Site A	08:00	12:00	08:00-12:00	Clear	10	75	60	100	10	Initial site assessment
10/11/20	07:30	11:30	Site A	07:30	11:30	07:30-11:30	Partly Cloudy	12	70	65	10	10	Soil sampling
10/12/20	08:00	12:00	Site A	08:00	12:00	08:00-12:00	Clear	10	75	60	100	10	Water sampling
10/13/20	08:00	12:00	Site A	08:00	12:00	08:00-12:00	Clear	10	75	60	100	10	Site cleanup

NAME: _____ FIELD NO: _____ City proposed study to: _____ Air speed direction: _____
 NAME: _____ FIELD NO: _____ all road equipment license: J.J. 111
 NAME: _____ FIELD NO: _____ License No: _____
 NAME: _____ FIELD NO: _____ License No: _____



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 4/20/2017 2:51:57PM

Sample Conditions Checklist

Samples Received at:	5.10°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-01 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2320B-2011	14.0		5.0	5.0	1	mg/L
Chloride	01	EPA300.0 R2.1	1.9		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.390		0.0700	0.150	1	mg/L
Nitrate+Nitrite as N	01	SM22 4500-NO3F-2011	0.39		0.02	0.10	1	mg/L

Laboratory Sample ID: 17J0120-02 Client Sample ID: MW-6

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW6010C	77.6		2.0	4.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	0.63	J	0.20	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	0.34	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	13.4		0.20	1.00	1	ug/L
Benzene	02	SW8260B	2.28		0.20	1.00	1	ug/L
Chlorobenzene	02	SW8260B	6.29		0.10	1.00	1	ug/L
Chloroethane	02	SW8260B	1.07		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	3.56		0.20	1.00	1	ug/L
Naphthalene	02	SW8260B	0.42	J	0.20	1.00	1	ug/L
o-Xylene	02	SW8260B	0.11	J	0.10	1.00	1	ug/L
Toluene	02	SW8260B	0.68	J	0.20	1.00	1	ug/L
Trichloroethylene	02	SW8260B	0.27	J	0.20	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.50		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-03 Client Sample ID: MW-X1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	03	SW6010C	52.9		2.0	4.0	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	0.73	J	0.20	1.00	1	ug/L
Benzene	03	SW8260B	0.65	J	0.20	1.00	1	ug/L
Chlorobenzene	03	SW8260B	9.34		0.10	1.00	1	ug/L
Chloroethane	03	SW8260B	0.46	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	0.37	J	0.20	1.00	1	ug/L

Laboratory Sample ID: 17J0120-04 Client Sample ID: CLF-1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	04	SW6010C	54.6		2.0	4.0	1	ug/L
1,1-Dichloroethane	04	SW8260B	1.06		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260B	0.37	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260B	8.79		0.20	1.00	1	ug/L
Benzene	04	SW8260B	1.98		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	5.01		0.10	1.00	1	ug/L
Chloroethane	04	SW8260B	0.41	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	6.68		0.20	1.00	1	ug/L
Toluene	04	SW8260B	0.26	J	0.20	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.44	J	0.20	1.00	1	ug/L
Vinyl chloride	04	SW8260B	0.52		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-06 Client Sample ID: MW-5

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	06	SW6010C	181		2.0	4.0	1	ug/L
1,1-Dichloroethane	06	SW8260B	1.35		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	06	SW8260B	1.28		0.20	1.00	1	ug/L
Benzene	06	SW8260B	1.53		0.20	1.00	1	ug/L
Chlorobenzene	06	SW8260B	2.74		0.10	1.00	1	ug/L
Chloroethane	06	SW8260B	1.06		0.20	1.00	1	ug/L

Laboratory Sample ID: 17J0120-07 Client Sample ID: MW-1C

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	07	SW6010C	29.0		2.0	4.0	1	ug/L
1,1-Dichloroethane	07	SW8260B	15.0		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	07	SW8260B	0.28	J	0.20	1.00	1	ug/L
1,2-Dichloroethane	07	SW8260B	0.85	J	0.30	1.00	1	ug/L
1,2-Dichloropropane	07	SW8260B	0.95	J	0.30	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW8260B	4.75		0.20	1.00	1	ug/L
Benzene	07	SW8260B	1.00		0.20	1.00	1	ug/L
Chlorobenzene	07	SW8260B	1.82		0.10	1.00	1	ug/L
Chloroethane	07	SW8260B	3.29		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8260B	19.9		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	07	SW8260B	0.35	J	0.20	1.00	1	ug/L
trans-1,2-Dichloroethylene	07	SW8260B	0.46	J	0.20	1.00	1	ug/L
Trichloroethylene	07	SW8260B	1.59		0.20	1.00	1	ug/L
Vinyl chloride	07	SW8260B	4.40		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-08 Client Sample ID: MW-1D

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	08	SW6010C	22.1		2.0	4.0	1	ug/L
1,1-Dichloroethane	08	SW8260B	0.98	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8260B	4.32		0.20	1.00	1	ug/L
Benzene	08	SW8260B	0.30	J	0.20	1.00	1	ug/L
Chlorobenzene	08	SW8260B	1.08		0.10	1.00	1	ug/L
Chloroethane	08	SW8260B	0.32	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8260B	10.6		0.20	1.00	1	ug/L
Trichloroethylene	08	SW8260B	0.37	J	0.20	1.00	1	ug/L
Vinyl chloride	08	SW8260B	1.98		0.20	0.50	1	ug/L

Laboratory Sample ID: 17J0120-09 Client Sample ID: MW-1E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	09	SW8260B	2.13		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	09	SW8260B	0.69	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	09	SW8260B	16.2		0.20	1.00	1	ug/L
Trichloroethylene	09	SW8260B	2.30		0.20	1.00	1	ug/L
Vinyl chloride	09	SW8260B	0.63		0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-10 **Client Sample ID: MW-1F**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	10	SW8260B	1.67		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	10	SW8260B	0.41	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	10	SW8260B	3.64		0.20	1.00	1	ug/L
Trichloroethylene	10	SW8260B	1.20		0.20	1.00	1	ug/L
Vinyl chloride	10	SW8260B	0.29	J	0.20	0.50	1	ug/L

Laboratory Sample ID: 17J0120-11 **Client Sample ID: MW-1G**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	11	SW8260B	3.67		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260B	0.29	J	0.20	1.00	1	ug/L
Chlorobenzene	11	SW8260B	0.11	J	0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260B	16.1		0.20	1.00	1	ug/L
Dichlorodifluoromethane	11	SW8260B	0.44	J	0.20	1.00	1	ug/L
Trichloroethylene	11	SW8260B	2.51		0.20	1.00	1	ug/L
Vinyl chloride	11	SW8260B	1.10		0.20	0.50	1	ug/L

Laboratory Sample ID: 17J0120-12 **Client Sample ID: MW-1H**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	12	SW8260B	1.00		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260B	0.47	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260B	4.19		0.20	1.00	1	ug/L
Trichloroethylene	12	SW8260B	1.06		0.20	1.00	1	ug/L
Vinyl chloride	12	SW8260B	0.29	J	0.20	0.50	1	ug/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-14 **Client Sample ID: MW-X2**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,4-Dichlorobenzene	14	SW8260B	0.24	J	0.20	1.00	1	ug/L
Chlorobenzene	14	SW8260B	0.79	J	0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	14	SW8260B	1.00		0.20	1.00	1	ug/L
Methane	14	RSK175M	2.1	J	1.1	5.0	1	ug/L
Alkalinity	14	SM22 2320B-2011	48.0		5.0	5.0	1	mg/L
Chloride	14RE1	EPA300.0 R2.1	79.4		5.0	10.0	10	mg/L
Nitrate as N	14	Calc.	1.05		0.0700	0.150	1	mg/L
Nitrate+Nitrite as N	14	SM22 4500-NO3F-2011	1.05		0.02	0.10	1	mg/L

Laboratory Sample ID: 17J0120-15 **Client Sample ID: CLF-15A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	15	SW8260B	4.47		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	15	SW8260B	17.5		0.20	1.00	1	ug/L
Dichlorodifluoromethane	15	SW8260B	0.90	J	0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	15	SW8260B	0.34	J	0.20	1.00	1	ug/L
Trichloroethylene	15	SW8260B	9.73		0.20	1.00	1	ug/L
Methane	15	RSK175M	353		1.1	5.0	1	ug/L
Alkalinity	15	SM22 2320B-2011	141		5.0	5.0	1	mg/L
Chloride	15	EPA300.0 R2.1	73.2		5.0	10.0	10	mg/L



Analysis Detects Report

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Laboratory Sample ID: 17J0120-16 Client Sample ID: PZ-4E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	16	SW7470A	2.30		0.20	0.20	1	ug/L
cis-1,2-Dichloroethylene	16	SW8260B	0.93	J	0.20	1.00	1	ug/L
m+p-Xylenes	16	SW8260B	0.37	J	0.20	2.00	1	ug/L
o-Xylene	16	SW8260B	0.11	J	0.10	1.00	1	ug/L
Tetrachloroethylene (PCE)	16	SW8260B	0.31	J	0.20	1.00	1	ug/L
Trichloroethylene	16	SW8260B	0.51	J	0.20	1.00	1	ug/L
Vinyl chloride	16	SW8260B	0.69		0.20	0.50	1	ug/L
Xylenes, Total	16	SW8260B	0.48	J	0.30	3.00	1	ug/L
Methane	16	RSK175M	1780		1.1	5.0	1	ug/L
Alkalinity	16	SM22 2320B-2011	18.8		5.0	5.0	1	mg/L
Chloride	16	EPA300.0 R2.1	2.2		0.5	1.0	1	mg/L

Laboratory Sample ID: 17J0120-17 Client Sample ID: CLF-S3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	17	SW8260B	0.60	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	17	SW8260B	0.25	J	0.20	1.00	1	ug/L
Methane	17	RSK175M	1.4	J	1.1	5.0	1	ug/L
Alkalinity	17	SM22 2320B-2011	83.6		5.0	5.0	1	mg/L
Chloride	17	EPA300.0 R2.1	4.1		0.5	1.0	1	mg/L
Nitrate as N	17	Calc.	0.166		0.0700	0.150	1	mg/L
Nitrate+Nitrite as N	17	SM22 4500-NO3F-2011	0.17		0.02	0.10	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 17J0120

Client Name: Joyce Engineering, Inc.-Richmond
1604 Ownby Lane
Richmond, VA 23220

Date Received: October 4, 2017 14:55
Date Issued: October 17, 2017 14:12
Project Number: 310.1701.03.02 (CA)
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 10/04/2017 14:55. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	17J0120-01	Ground Water	10/04/2017 09:35	10/04/2017 14:55
MW-6	17J0120-02	Ground Water	10/03/2017 10:45	10/04/2017 14:55
MW-X1	17J0120-03	Ground Water	10/03/2017 10:20	10/04/2017 14:55
CLF-1	17J0120-04	Ground Water	10/03/2017 11:15	10/04/2017 14:55
MW-3	17J0120-05	Ground Water	10/03/2017 11:40	10/04/2017 14:55
MW-5	17J0120-06	Ground Water	10/03/2017 09:30	10/04/2017 14:55
MW-1C	17J0120-07	Ground Water	10/03/2017 08:30	10/04/2017 14:55
MW-1D	17J0120-08	Ground Water	10/03/2017 11:55	10/04/2017 14:55
MW-1E	17J0120-09	Ground Water	10/03/2017 11:50	10/04/2017 14:55
MW-1F	17J0120-10	Ground Water	10/04/2017 07:45	10/04/2017 14:55
MW-1G	17J0120-11	Ground Water	10/03/2017 12:05	10/04/2017 14:55
MW-1H	17J0120-12	Ground Water	10/04/2017 07:55	10/04/2017 14:55
MW-1I	17J0120-13	Ground Water	10/03/2017 12:20	10/04/2017 14:55
MW-X2	17J0120-14	Ground Water	10/04/2017 10:10	10/04/2017 14:55
CLF-15A	17J0120-15	Ground Water	10/04/2017 08:50	10/04/2017 14:55
PZ-4E	17J0120-16	Ground Water	10/04/2017 09:10	10/04/2017 14:55
CLF-S3	17J0120-17	Ground Water	10/04/2017 08:20	10/04/2017 14:55
MW-X2D	17J0120-18	Ground Water	10/03/2017 09:40	10/04/2017 14:55
CLF-S1	17J0120-19	Ground Water	10/04/2017 08:35	10/04/2017 14:55



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-20

Laboratory Sample ID: 17J0120-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-8	RSK175M	10/09/2017 11:39	10/09/2017 11:39	BLOD		1.1	5.0	1	ug/L	CL
<i>Surr: Acetylene (Surr)</i>	<i>01</i>	<i>99.5 %</i>	<i>70-130</i>	<i>10/09/2017 11:39</i>	<i>10/09/2017 11:39</i>							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 2320B-2011	10/12/2017 17:36	10/16/2017 10:08	14.0		5.0	5.0	1	mg/L	MEC
Chloride	01	16887-00-6	EPA300.0 R2.1	10/13/2017 12:12	10/13/2017 12:12	1.9		0.5	1.0	1	mg/L	JSKL
Nitrate as N	01	14797-55-8	Calc.	10/05/2017 15:14	10/05/2017 15:14	0.390		0.0700	0.150	1	mg/L	BBP
Nitrate+Nitrite as N	01	NA	SM22 4500-NO3F- 2011	10/05/2017 15:14	10/05/2017 15:14	0.39		0.02	0.10	1	mg/L	JCM
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	10/04/2017 12:15	10/04/2017 12:15	BLOD		0.05	0.05	1	mg/L	BBP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-6

Laboratory Sample ID: 17J0120-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	02	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:16	77.6		2.0	4.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.63	J	0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.34	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260B	10/05/2017 11:40	10/05/2017 11:40	13.4		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW8260B	10/05/2017 11:40	10/05/2017 11:40	2.28		0.20	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		1.00	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-6

Laboratory Sample ID: 17J0120-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW8260B	10/05/2017 11:40	10/05/2017 11:40	6.29		0.10	1.00	1	ug/L	KCS
Chloroethane	02	75-00-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	1.07		0.20	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260B	10/05/2017 11:40	10/05/2017 11:40	3.56		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	02	91-20-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.42	J	0.20	1.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.11	J	0.10	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.68	J	0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.27	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.20	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-6

Laboratory Sample ID: 17J0120-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	02	108-05-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260B	10/05/2017 11:40	10/05/2017 11:40	0.50		0.20	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260B	10/05/2017 11:40	10/05/2017 11:40	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	02	95.7 %	70-120	10/05/2017 11:40	10/05/2017 11:40							
Surr: 4-Bromofluorobenzene (Surr)	02	95.2 %	75-120	10/05/2017 11:40	10/05/2017 11:40							
Surr: Dibromofluoromethane (Surr)	02	91.0 %	80-119	10/05/2017 11:40	10/05/2017 11:40							
Surr: Toluene-d8 (Surr)	02	99.5 %	85-120	10/05/2017 11:40	10/05/2017 11:40							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17J0120-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	03	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:27	52.9		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17J0120-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260B	10/05/2017 12:04	10/05/2017 12:04	0.73	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	03	71-43-2	SW8260B	10/05/2017 12:04	10/05/2017 12:04	0.65	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW8260B	10/05/2017 12:04	10/05/2017 12:04	9.34		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17J0120-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	03	75-00-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	0.46	J	0.20	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260B	10/05/2017 12:04	10/05/2017 12:04	0.37	J	0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	03	91-20-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	03	100-42-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		2.20	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X1

Laboratory Sample ID: 17J0120-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	03	75-01-4	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	03	1330-20-7	SW8260B	10/05/2017 12:04	10/05/2017 12:04	BLOD		0.30	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	95.5 %	70-120	10/05/2017 12:04	10/05/2017 12:04							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	95.0 %	75-120	10/05/2017 12:04	10/05/2017 12:04							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	90.2 %	80-119	10/05/2017 12:04	10/05/2017 12:04							
<i>Surr: Toluene-d8 (Surr)</i>	03	98.8 %	85-120	10/05/2017 12:04	10/05/2017 12:04							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17J0120-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	04	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:29	54.6		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17J0120-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	1.06		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	0.37	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW8260B	10/05/2017 12:51	10/05/2017 12:51	8.79		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	SW8260B	10/05/2017 12:51	10/05/2017 12:51	1.98		0.20	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW8260B	10/05/2017 12:51	10/05/2017 12:51	5.01		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17J0120-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	0.41	J	0.20	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	04	156-59-2	SW8260B	10/05/2017 12:51	10/05/2017 12:51	6.68		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	04	100-42-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260B	10/05/2017 12:51	10/05/2017 12:51	0.26	J	0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260B	10/05/2017 12:51	10/05/2017 12:51	0.44	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		2.20	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-1

Laboratory Sample ID: 17J0120-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	SW8260B	10/05/2017 12:51	10/05/2017 12:51	0.52		0.20	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260B	10/05/2017 12:51	10/05/2017 12:51	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	04	98.6 %	70-120	10/05/2017 12:51	10/05/2017 12:51							
Surr: 4-Bromofluorobenzene (Surr)	04	96.4 %	75-120	10/05/2017 12:51	10/05/2017 12:51							
Surr: Dibromofluoromethane (Surr)	04	89.7 %	80-119	10/05/2017 12:51	10/05/2017 12:51							
Surr: Toluene-d8 (Surr)	04	98.6 %	85-120	10/05/2017 12:51	10/05/2017 12:51							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-3

Laboratory Sample ID: 17J0120-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	05	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:30	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-3

Laboratory Sample ID: 17J0120-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	05	79-34-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-3

Laboratory Sample ID: 17J0120-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-00-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-3

Laboratory Sample ID: 17J0120-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	05	1330-20-7	SW8260B	10/05/2017 13:14	10/05/2017 13:14	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	05	94.6 %	70-120	10/05/2017 13:14	10/05/2017 13:14							
Surr: 4-Bromofluorobenzene (Surr)	05	96.1 %	75-120	10/05/2017 13:14	10/05/2017 13:14							
Surr: Dibromofluoromethane (Surr)	05	88.2 %	80-119	10/05/2017 13:14	10/05/2017 13:14							
Surr: Toluene-d8 (Surr)	05	99.1 %	85-120	10/05/2017 13:14	10/05/2017 13:14							



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-5

Laboratory Sample ID: 17J0120-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	06	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:33	181		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-5

Laboratory Sample ID: 17J0120-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	06	71-55-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	75-34-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	1.35		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	06	96-18-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	95-50-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	107-06-2	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW8260B	10/05/2017 13:38	10/05/2017 13:38	1.28		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	06	78-93-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	06	591-78-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	06	71-43-2	SW8260B	10/05/2017 13:38	10/05/2017 13:38	1.53		0.20	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	06	75-25-2	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	06	108-90-7	SW8260B	10/05/2017 13:38	10/05/2017 13:38	2.74		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-5

Laboratory Sample ID: 17J0120-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	06	75-00-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	1.06		0.20	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-59-2	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	06	124-48-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	06	74-95-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-8	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	06	74-88-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	06	179601-23-1	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	06	95-47-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	06	100-42-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	06	127-18-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	06	108-88-3	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	156-60-5	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10061-02-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	06	79-01-6	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	75-69-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	06	108-05-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	06	75-01-4	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-5

Laboratory Sample ID: 17J0120-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	06	1330-20-7	SW8260B	10/05/2017 13:38	10/05/2017 13:38	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	06	98.5 %	70-120	10/05/2017 13:38	10/05/2017 13:38							
Surr: 4-Bromofluorobenzene (Surr)	06	97.1 %	75-120	10/05/2017 13:38	10/05/2017 13:38							
Surr: Dibromofluoromethane (Surr)	06	92.0 %	80-119	10/05/2017 13:38	10/05/2017 13:38							
Surr: Toluene-d8 (Surr)	06	98.3 %	85-120	10/05/2017 13:38	10/05/2017 13:38							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17J0120-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	07	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:35	29.0		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17J0120-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	75-34-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	15.0		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-35-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	07	96-18-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	95-50-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	0.28	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SW8260B	10/05/2017 14:01	10/05/2017 14:01	0.85	J	0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	78-87-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	0.95	J	0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW8260B	10/05/2017 14:01	10/05/2017 14:01	4.75		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	07	78-93-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	07	591-78-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SW8260B	10/05/2017 14:01	10/05/2017 14:01	1.00		0.20	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	07	75-25-2	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SW8260B	10/05/2017 14:01	10/05/2017 14:01	1.82		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17J0120-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	3.29		0.20	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	07	156-59-2	SW8260B	10/05/2017 14:01	10/05/2017 14:01	19.9		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	10061-01-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	07	124-48-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	07	74-95-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	07	74-88-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	07	179601-23-1	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	07	100-42-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	0.35	J	0.20	1.00	1	ug/L	KCS
Toluene	07	108-88-3	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-60-5	SW8260B	10/05/2017 14:01	10/05/2017 14:01	0.46	J	0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SW8260B	10/05/2017 14:01	10/05/2017 14:01	1.59		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-69-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW8260B	10/05/2017 14:01	10/05/2017 14:01	4.40		0.20	0.50	1	ug/L	KCS
Xylenes, Total	07	1330-20-7	SW8260B	10/05/2017 14:01	10/05/2017 14:01	BLOD		0.30	3.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1C

Laboratory Sample ID: 17J0120-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: 1,2-Dichloroethane-d4 (Surr)	07	99.4 %	70-120	10/05/2017 14:01	10/05/2017 14:01							
Surr: 4-Bromofluorobenzene (Surr)	07	97.0 %	75-120	10/05/2017 14:01	10/05/2017 14:01							
Surr: Dibromofluoromethane (Surr)	07	92.9 %	80-119	10/05/2017 14:01	10/05/2017 14:01							
Surr: Toluene-d8 (Surr)	07	98.5 %	85-120	10/05/2017 14:01	10/05/2017 14:01							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17J0120-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	08	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:37	22.1		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17J0120-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	08	630-20-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-55-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	75-34-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	0.98	J	0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	08	96-18-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	08	107-06-2	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	78-87-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW8260B	10/05/2017 14:25	10/05/2017 14:25	4.32		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	08	78-93-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	08	591-78-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	108-10-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW8260B	10/05/2017 14:25	10/05/2017 14:25	0.30	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	08	74-97-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	08	75-25-2	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW8260B	10/05/2017 14:25	10/05/2017 14:25	1.08		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17J0120-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-00-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	0.32	J	0.20	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	08	156-59-2	SW8260B	10/05/2017 14:25	10/05/2017 14:25	10.6		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10061-01-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	08	124-48-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	08	74-88-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	08	179601-23-1	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	08	108-88-3	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-5	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10061-02-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-57-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260B	10/05/2017 14:25	10/05/2017 14:25	0.37	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW8260B	10/05/2017 14:25	10/05/2017 14:25	1.98		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1D

Laboratory Sample ID: 17J0120-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	08	1330-20-7	SW8260B	10/05/2017 14:25	10/05/2017 14:25	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	08	94.8 %	70-120	10/05/2017 14:25	10/05/2017 14:25							
Surr: 4-Bromofluorobenzene (Surr)	08	95.0 %	75-120	10/05/2017 14:25	10/05/2017 14:25							
Surr: Dibromofluoromethane (Surr)	08	89.1 %	80-119	10/05/2017 14:25	10/05/2017 14:25							
Surr: Toluene-d8 (Surr)	08	99.0 %	85-120	10/05/2017 14:25	10/05/2017 14:25							



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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17J0120-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	09	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:39	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17J0120-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	09	630-20-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	09	71-55-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	09	79-34-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	75-34-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	2.13		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	09	96-18-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	95-50-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	09	107-06-2	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	78-87-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW8260B	10/05/2017 14:48	10/05/2017 14:48	0.69	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	09	78-93-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	09	591-78-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	09	107-13-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	09	71-43-2	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	09	74-97-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	09	75-27-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	09	75-25-2	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	09	74-83-9	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	09	56-23-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	09	108-90-7	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17J0120-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-00-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	09	156-59-2	SW8260B	10/05/2017 14:48	10/05/2017 14:48	16.2		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10061-01-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	09	124-48-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	09	74-95-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	09	74-88-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	09	179601-23-1	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	09	75-09-2	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	09	100-42-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	09	108-88-3	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-5	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10061-02-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-57-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	09	79-01-6	SW8260B	10/05/2017 14:48	10/05/2017 14:48	2.30		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	75-69-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW8260B	10/05/2017 14:48	10/05/2017 14:48	0.63		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1E

Laboratory Sample ID: 17J0120-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	09	1330-20-7	SW8260B	10/05/2017 14:48	10/05/2017 14:48	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	09	98.7 %	70-120	10/05/2017 14:48	10/05/2017 14:48							
Surr: 4-Bromofluorobenzene (Surr)	09	96.9 %	75-120	10/05/2017 14:48	10/05/2017 14:48							
Surr: Dibromofluoromethane (Surr)	09	91.4 %	80-119	10/05/2017 14:48	10/05/2017 14:48							
Surr: Toluene-d8 (Surr)	09	97.5 %	85-120	10/05/2017 14:48	10/05/2017 14:48							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17J0120-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	10	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:41	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17J0120-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	10	630-20-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-55-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	10	79-34-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	10	75-34-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	1.67		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	10	96-18-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	10	95-50-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	10	107-06-2	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	78-87-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-46-7	SW8260B	10/05/2017 15:12	10/05/2017 15:12	0.41	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	10	78-93-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	10	591-78-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	108-10-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	10	107-13-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	10	75-25-2	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	10	74-83-9	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	56-23-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	10	108-90-7	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17J0120-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-00-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	10	156-59-2	SW8260B	10/05/2017 15:12	10/05/2017 15:12	3.64		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10061-01-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	10	124-48-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	10	74-95-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	10	74-88-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	10	179601-23-1	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	10	75-09-2	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	10	95-47-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	10	100-42-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	10	108-88-3	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-5	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10061-02-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	110-57-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	10	79-01-6	SW8260B	10/05/2017 15:12	10/05/2017 15:12	1.20		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	75-69-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	10	75-01-4	SW8260B	10/05/2017 15:12	10/05/2017 15:12	0.29	J	0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1F

Laboratory Sample ID: 17J0120-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	10	1330-20-7	SW8260B	10/05/2017 15:12	10/05/2017 15:12	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	10	101 %	70-120	10/05/2017 15:12	10/05/2017 15:12							
Surr: 4-Bromofluorobenzene (Surr)	10	97.6 %	75-120	10/05/2017 15:12	10/05/2017 15:12							
Surr: Dibromofluoromethane (Surr)	10	93.5 %	80-119	10/05/2017 15:12	10/05/2017 15:12							
Surr: Toluene-d8 (Surr)	10	97.5 %	85-120	10/05/2017 15:12	10/05/2017 15:12							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17J0120-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	11	7440-48-4	SW6010C	10/05/2017 08:40	10/05/2017 16:54	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17J0120-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	11	630-20-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	11	71-55-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2,2-Tetrachloroethane	11	79-34-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	11	79-00-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	11	75-34-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	3.67		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	11	75-35-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	11	96-18-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	11	95-50-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	11	107-06-2	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	11	78-87-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	11	106-46-7	SW8260B	10/05/2017 15:35	10/05/2017 15:35	0.29	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	11	78-93-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	11	591-78-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	11	108-10-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	11	67-64-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	11	107-13-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	11	71-43-2	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	11	74-97-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	11	75-27-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	11	75-25-2	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	11	74-83-9	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	11	75-15-0	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	11	56-23-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	11	108-90-7	SW8260B	10/05/2017 15:35	10/05/2017 15:35	0.11	J	0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17J0120-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-00-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	11	67-66-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	11	74-87-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	11	156-59-2	SW8260B	10/05/2017 15:35	10/05/2017 15:35	16.1		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	11	10061-01-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	11	124-48-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	11	74-95-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	11	75-71-8	SW8260B	10/05/2017 15:35	10/05/2017 15:35	0.44	J	0.20	1.00	1	ug/L	KCS
Ethylbenzene	11	100-41-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	11	74-88-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	11	179601-23-1	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	11	75-09-2	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	11	95-47-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	11	100-42-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	11	127-18-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	11	108-88-3	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	11	156-60-5	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	11	10061-02-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	11	110-57-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	11	79-01-6	SW8260B	10/05/2017 15:35	10/05/2017 15:35	2.51		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	11	75-69-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	11	108-05-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	11	75-01-4	SW8260B	10/05/2017 15:35	10/05/2017 15:35	1.10		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1G

Laboratory Sample ID: 17J0120-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	11	1330-20-7	SW8260B	10/05/2017 15:35	10/05/2017 15:35	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	11	96.4 %	70-120	10/05/2017 15:35	10/05/2017 15:35							
Surr: 4-Bromofluorobenzene (Surr)	11	95.5 %	75-120	10/05/2017 15:35	10/05/2017 15:35							
Surr: Dibromofluoromethane (Surr)	11	91.3 %	80-119	10/05/2017 15:35	10/05/2017 15:35							
Surr: Toluene-d8 (Surr)	11	98.1 %	85-120	10/05/2017 15:35	10/05/2017 15:35							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17J0120-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	12	7440-48-4	SW6010C	10/06/2017 08:30	10/06/2017 16:08	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17J0120-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	12	630-20-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-55-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	12	79-34-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	12	79-00-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	12	75-34-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	1.00		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	12	75-35-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	12	96-18-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	12	95-50-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	12	107-06-2	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	78-87-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	12	106-46-7	SW8260B	10/05/2017 15:59	10/05/2017 15:59	0.47	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	12	78-93-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	12	591-78-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	12	108-10-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	12	67-64-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	12	107-13-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	12	71-43-2	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	12	74-97-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	12	75-27-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	12	75-25-2	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	12	74-83-9	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	12	75-15-0	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	12	56-23-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	12	108-90-7	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17J0120-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-00-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	12	74-87-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	12	156-59-2	SW8260B	10/05/2017 15:59	10/05/2017 15:59	4.19		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	12	10061-01-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	12	124-48-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	12	74-95-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	12	75-71-8	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	12	100-41-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	12	74-88-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	12	179601-23-1	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	12	75-09-2	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	12	95-47-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	12	100-42-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	12	127-18-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	12	108-88-3	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	12	156-60-5	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	12	10061-02-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	12	110-57-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	12	79-01-6	SW8260B	10/05/2017 15:59	10/05/2017 15:59	1.06		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	12	75-69-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	12	108-05-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	12	75-01-4	SW8260B	10/05/2017 15:59	10/05/2017 15:59	0.29	J	0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1H

Laboratory Sample ID: 17J0120-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	12	1330-20-7	SW8260B	10/05/2017 15:59	10/05/2017 15:59	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	12	102 %	70-120	10/05/2017 15:59	10/05/2017 15:59							
Surr: 4-Bromofluorobenzene (Surr)	12	95.3 %	75-120	10/05/2017 15:59	10/05/2017 15:59							
Surr: Dibromofluoromethane (Surr)	12	91.8 %	80-119	10/05/2017 15:59	10/05/2017 15:59							
Surr: Toluene-d8 (Surr)	12	99.4 %	85-120	10/05/2017 15:59	10/05/2017 15:59							



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1I

Laboratory Sample ID: 17J0120-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	13	7440-48-4	SW6010C	10/06/2017 08:30	10/06/2017 16:14	BLOD		2.0	4.0	1	ug/L	CWO



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-11

Laboratory Sample ID: 17J0120-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	13	630-20-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	13	71-55-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	13	79-34-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	13	79-00-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	13	75-34-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	13	75-35-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	13	96-18-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	13	95-50-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	13	107-06-2	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	13	78-87-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	13	106-46-7	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	13	78-93-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	13	591-78-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	13	108-10-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	13	67-64-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	13	107-13-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	13	71-43-2	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	13	74-97-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	13	75-27-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	13	75-25-2	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	13	74-83-9	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	13	75-15-0	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	13	56-23-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	13	108-90-7	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-11

Laboratory Sample ID: 17J0120-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	13	75-00-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	13	67-66-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	13	74-87-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	13	156-59-2	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	13	10061-01-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	13	124-48-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	13	74-95-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	13	75-71-8	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	13	100-41-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	13	74-88-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	13	179601-23-1	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	13	75-09-2	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	13	95-47-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	13	100-42-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	13	127-18-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	13	108-88-3	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	13	156-60-5	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	13	10061-02-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	13	110-57-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	13	79-01-6	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	13	75-69-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	13	108-05-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	13	75-01-4	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-1I

Laboratory Sample ID: 17J0120-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	13	1330-20-7	SW8260B	10/05/2017 16:22	10/05/2017 16:22	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	13	93.9 %	70-120	10/05/2017 16:22	10/05/2017 16:22							
Surr: 4-Bromofluorobenzene (Surr)	13	95.4 %	75-120	10/05/2017 16:22	10/05/2017 16:22							
Surr: Dibromofluoromethane (Surr)	13	90.4 %	80-119	10/05/2017 16:22	10/05/2017 16:22							
Surr: Toluene-d8 (Surr)	13	98.3 %	85-120	10/05/2017 16:22	10/05/2017 16:22							



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	14	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 11:59	BLOD		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	14	630-20-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	14	71-55-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	14	79-34-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	14	75-34-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	14	75-35-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	14	96-18-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	14	95-50-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	14	107-06-2	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	14	78-87-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	14	106-46-7	SW8260B	10/05/2017 16:46	10/05/2017 16:46	0.24	J	0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	14	78-93-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	14	591-78-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	14	108-10-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	14	67-64-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	14	107-13-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	14	71-43-2	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	14	74-97-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	14	75-27-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	14	75-25-2	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	14	74-83-9	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	14	75-15-0	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	14	56-23-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	14	108-90-7	SW8260B	10/05/2017 16:46	10/05/2017 16:46	0.79	J	0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	14	75-00-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	14	67-66-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	14	74-87-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	14	156-59-2	SW8260B	10/05/2017 16:46	10/05/2017 16:46	1.00		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	14	10061-01-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	14	124-48-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	14	74-95-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	14	75-71-8	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	14	100-41-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	14	74-88-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	14	179601-23-1	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	14	75-09-2	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	14	95-47-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	14	100-42-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	14	127-18-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	14	108-88-3	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	14	156-60-5	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	14	10061-02-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	14	110-57-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	14	79-01-6	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	14	75-69-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	14	108-05-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	14	75-01-4	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	14	1330-20-7	SW8260B	10/05/2017 16:46	10/05/2017 16:46	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	14	100 %	70-120	10/05/2017 16:46	10/05/2017 16:46							
Surr: 4-Bromofluorobenzene (Surr)	14	97.8 %	75-120	10/05/2017 16:46	10/05/2017 16:46							
Surr: Dibromofluoromethane (Surr)	14	92.1 %	80-119	10/05/2017 16:46	10/05/2017 16:46							
Surr: Toluene-d8 (Surr)	14	97.7 %	85-120	10/05/2017 16:46	10/05/2017 16:46							



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	14	74-82-8	RSK175M	10/09/2017 11:51	10/09/2017 11:51	2.1	J	1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	14	99.2 %	70-130	10/09/2017 11:51	10/09/2017 11:51							



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2

Laboratory Sample ID: 17J0120-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	14	NA	SM22 2320B-2011	10/12/2017 17:36	10/16/2017 10:08	48.0		5.0	5.0	1	mg/L	MEC
Chloride	14RE1	16887-00-6	EPA300.0 R2.1	10/13/2017 20:55	10/13/2017 20:55	79.4		5.0	10.0	10	mg/L	JSKL
Nitrate as N	14	14797-55-8	Calc.	10/05/2017 15:35	10/05/2017 15:35	1.05		0.0700	0.150	1	mg/L	BBP
Nitrate+Nitrite as N	14	NA	SM22 4500-NO3F- 2011	10/05/2017 15:35	10/05/2017 15:35	1.05		0.02	0.10	1	mg/L	JCM
Nitrite as N	14	14797-65-0	SM22 4500-NO2B- 2011	10/04/2017 12:15	10/04/2017 12:15	BLOD		0.05	0.05	1	mg/L	BBP
Sulfide	14	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP



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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	15	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:01	BLOD		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	15	630-20-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	15	71-55-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	15	79-34-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	15	79-00-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	75-34-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	4.47		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	15	75-35-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	15	96-18-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	15	95-50-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	15	107-06-2	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	78-87-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	15	106-46-7	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	15	78-93-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	15	591-78-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	15	108-10-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	15	67-64-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	15	107-13-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	15	71-43-2	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	15	74-97-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	15	75-27-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	15	75-25-2	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	15	74-83-9	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	15	75-15-0	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	15	56-23-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	15	108-90-7	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-00-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	15	67-66-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	15	74-87-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	15	156-59-2	SW8260B	10/05/2017 17:10	10/05/2017 17:10	17.5		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	15	10061-01-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	15	124-48-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	15	74-95-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	15	75-71-8	SW8260B	10/05/2017 17:10	10/05/2017 17:10	0.90	J	0.20	1.00	1	ug/L	KCS
Ethylbenzene	15	100-41-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	15	74-88-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	15	179601-23-1	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	15	75-09-2	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	15	95-47-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	15	100-42-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	15	127-18-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	0.34	J	0.20	1.00	1	ug/L	KCS
Toluene	15	108-88-3	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	15	156-60-5	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	15	10061-02-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	15	110-57-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	15	79-01-6	SW8260B	10/05/2017 17:10	10/05/2017 17:10	9.73		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	15	75-69-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	15	108-05-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	15	75-01-4	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	15	1330-20-7	SW8260B	10/05/2017 17:10	10/05/2017 17:10	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	15	88.8 %	70-120	10/05/2017 17:10	10/05/2017 17:10							
Surr: 4-Bromofluorobenzene (Surr)	15	95.2 %	75-120	10/05/2017 17:10	10/05/2017 17:10							
Surr: Dibromofluoromethane (Surr)	15	89.0 %	80-119	10/05/2017 17:10	10/05/2017 17:10							
Surr: Toluene-d8 (Surr)	15	97.3 %	85-120	10/05/2017 17:10	10/05/2017 17:10							



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Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	15	74-82-8	RSK175M	10/09/2017 12:04	10/09/2017 12:04	353		1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	15	106 %	70-130	10/09/2017 12:04	10/09/2017 12:04							



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Client Sample ID: CLF-15A

Laboratory Sample ID: 17J0120-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	15	NA	SM22 2320B-2011	10/12/2017 17:36	10/16/2017 10:08	141		5.0	5.0	1	mg/L	MEC
Chloride	15	16887-00-6	EPA300.0 R2.1	10/13/2017 13:57	10/13/2017 13:57	73.2		5.0	10.0	10	mg/L	JSKL
Nitrate as N	15	14797-55-8	Calc.	10/05/2017 15:38	10/05/2017 15:38	BLOD		0.0700	0.150	1	mg/L	BBP
Nitrate+Nitrite as N	15	NA	SM22 4500-NO3F- 2011	10/05/2017 15:38	10/05/2017 15:38	BLOD		0.02	0.10	1	mg/L	JCM
Nitrite as N	15	14797-65-0	SM22 4500-NO2B- 2011	10/04/2017 09:15	10/04/2017 09:15	BLOD		0.05	0.05	1	mg/L	BBP
Sulfide	15	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	16	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:03	2.30		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	16	630-20-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	16	71-55-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	16	79-34-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	16	79-00-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	16	75-34-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	16	75-35-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	16	96-18-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	16	95-50-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	16	107-06-2	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	16	78-87-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	16	106-46-7	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	16	78-93-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	16	591-78-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	16	108-10-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	16	67-64-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	16	107-13-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	16	71-43-2	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	16	74-97-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	16	75-27-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	16	75-25-2	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	16	74-83-9	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	16	75-15-0	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	16	56-23-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	16	108-90-7	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	16	75-00-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	16	67-66-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	16	74-87-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	16	156-59-2	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.93	J	0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	16	10061-01-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	16	124-48-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	16	74-95-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	16	75-71-8	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	16	100-41-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	16	74-88-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	16	179601-23-1	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.37	J	0.20	2.00	1	ug/L	KCS
Methylene chloride	16	75-09-2	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	16	95-47-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.11	J	0.10	1.00	1	ug/L	KCS
Styrene	16	100-42-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	16	127-18-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.31	J	0.20	1.00	1	ug/L	KCS
Toluene	16	108-88-3	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	16	156-60-5	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	16	10061-02-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	16	110-57-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	16	79-01-6	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.51	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	16	75-69-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	16	108-05-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	16	75-01-4	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.69		0.20	0.50	1	ug/L	KCS
Xylenes, Total	16	1330-20-7	SW8260B	10/05/2017 17:33	10/05/2017 17:33	0.48	J	0.30	3.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Surr: 1,2-Dichloroethane-d4 (Surr)	16	99.9 %	70-120	10/05/2017 17:33	10/05/2017 17:33							
Surr: 4-Bromofluorobenzene (Surr)	16	97.1 %	75-120	10/05/2017 17:33	10/05/2017 17:33							
Surr: Dibromofluoromethane (Surr)	16	89.8 %	80-119	10/05/2017 17:33	10/05/2017 17:33							
Surr: Toluene-d8 (Surr)	16	97.9 %	85-120	10/05/2017 17:33	10/05/2017 17:33							



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Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	16	74-82-8	RSK175M	10/09/2017 12:17	10/09/2017 12:17	1780		1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	16	105 %	70-130	10/09/2017 12:17	10/09/2017 12:17							



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Client Sample ID: PZ-4E

Laboratory Sample ID: 17J0120-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	16	NA	SM22 2320B-2011	10/12/2017 17:36	10/16/2017 10:08	18.8		5.0	5.0	1	mg/L	MEC
Chloride	16	16887-00-6	EPA300.0 R2.1	10/13/2017 14:23	10/13/2017 14:23	2.2		0.5	1.0	1	mg/L	JSKL
Nitrate as N	16	14797-55-8	Calc.	10/05/2017 15:41	10/05/2017 15:41	BLOD		0.0700	0.150	1	mg/L	BBP
Nitrate+Nitrite as N	16	NA	SM22 4500-NO3F- 2011	10/05/2017 15:41	10/05/2017 15:41	BLOD		0.02	0.10	1	mg/L	JCM
Nitrite as N	16	14797-65-0	SM22 4500-NO2B- 2011	10/04/2017 09:15	10/04/2017 09:15	BLOD		0.05	0.05	1	mg/L	BBP
Sulfide	16	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP



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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	17	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:05	BLOD		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	17	630-20-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	17	71-55-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	17	79-34-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	17	79-00-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	17	75-34-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	0.60	J	0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	17	75-35-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	17	96-18-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	17	95-50-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	17	107-06-2	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	78-87-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	17	106-46-7	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	17	78-93-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	17	591-78-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	17	108-10-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	17	67-64-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	17	107-13-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	17	71-43-2	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	17	74-97-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	17	75-27-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	17	75-25-2	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	17	74-83-9	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	17	75-15-0	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	17	56-23-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	17	108-90-7	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	17	75-00-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	17	67-66-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	17	74-87-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	17	156-59-2	SW8260B	10/05/2017 17:56	10/05/2017 17:56	0.25	J	0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	17	10061-01-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	17	124-48-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	17	74-95-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	17	75-71-8	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	17	100-41-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	17	74-88-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	17	179601-23-1	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	17	75-09-2	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	17	95-47-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	17	100-42-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	17	127-18-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	17	108-88-3	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	17	156-60-5	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	17	10061-02-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	17	110-57-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	17	79-01-6	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	17	75-69-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	17	108-05-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	17	75-01-4	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	17	1330-20-7	SW8260B	10/05/2017 17:56	10/05/2017 17:56	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	17	96.1 %	70-120	10/05/2017 17:56	10/05/2017 17:56							
Surr: 4-Bromofluorobenzene (Surr)	17	97.0 %	75-120	10/05/2017 17:56	10/05/2017 17:56							
Surr: Dibromofluoromethane (Surr)	17	91.3 %	80-119	10/05/2017 17:56	10/05/2017 17:56							
Surr: Toluene-d8 (Surr)	17	99.4 %	85-120	10/05/2017 17:56	10/05/2017 17:56							



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Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	17	74-82-8	RSK175M	10/09/2017 12:29	10/09/2017 12:29	1.4	J	1.1	5.0	1	ug/L	CL
Surr: Acetylene (Surr)	17	98.3 %	70-130	10/09/2017 12:29	10/09/2017 12:29							



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Laboratory Sample ID: 17J0120-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	17	NA	SM22 2320B-2011	10/12/2017 17:36	10/16/2017 10:08	83.6		5.0	5.0	1	mg/L	MEC
Chloride	17	16887-00-6	EPA300.0 R2.1	10/13/2017 14:49	10/13/2017 14:49	4.1		0.5	1.0	1	mg/L	JSKL
Nitrate as N	17	14797-55-8	Calc.	10/05/2017 15:53	10/05/2017 15:53	0.166		0.0700	0.150	1	mg/L	BBP
Nitrate+Nitrite as N	17	NA	SM22 4500-NO3F- 2011	10/05/2017 15:53	10/05/2017 15:53	0.17		0.02	0.10	1	mg/L	JCM
Nitrite as N	17	14797-65-0	SM22 4500-NO2B- 2011	10/04/2017 09:15	10/04/2017 09:15	BLOD		0.05	0.05	1	mg/L	BBP
Sulfide	17	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP



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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17J0120-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	18	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:08	BLOD		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17J0120-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	18	630-20-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-55-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	18	79-34-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	75-34-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	75-35-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	18	96-18-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	107-06-2	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	18	78-87-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	18	78-93-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	18	591-78-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	108-10-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	18	67-64-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	18	74-97-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	18	75-25-2	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	18	75-15-0	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17J0120-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-00-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	18	156-59-2	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10061-01-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	18	124-48-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	18	74-88-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	18	179601-23-1	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	18	95-47-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	18	127-18-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	18	108-88-3	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	18	156-60-5	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10061-02-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-57-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	18	79-01-6	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	75-69-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 17J0120-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	18	1330-20-7	SW8260B	10/05/2017 18:19	10/05/2017 18:19	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	18	97.5 %	70-120	10/05/2017 18:19	10/05/2017 18:19							
Surr: 4-Bromofluorobenzene (Surr)	18	97.4 %	75-120	10/05/2017 18:19	10/05/2017 18:19							
Surr: Dibromofluoromethane (Surr)	18	89.8 %	80-119	10/05/2017 18:19	10/05/2017 18:19							
Surr: Toluene-d8 (Surr)	18	97.4 %	85-120	10/05/2017 18:19	10/05/2017 18:19							



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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17J0120-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	19	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:10	BLOD		0.20	0.20	1	ug/L	RCV



Certificate of Analysis

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Client Sample ID: CLF-S1

Laboratory Sample ID: 17J0120-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	19	630-20-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	19	71-55-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	19	79-34-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-00-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	19	75-34-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	19	75-35-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	19	96-18-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	19	95-50-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	19	107-06-2	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	19	78-87-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	19	106-46-7	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	19	78-93-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	19	591-78-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	19	108-10-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	19	67-64-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	19	107-13-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	19	71-43-2	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	19	74-97-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	19	75-27-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	19	75-25-2	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	19	74-83-9	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	19	75-15-0	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	19	56-23-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	19	108-90-7	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS



Certificate of Analysis

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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17J0120-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	19	75-00-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	19	67-66-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	19	74-87-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	19	156-59-2	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	19	10061-01-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	19	124-48-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	19	74-95-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	19	100-41-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	19	74-88-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	19	179601-23-1	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	19	75-09-2	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	19	95-47-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	19	100-42-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	19	127-18-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	19	108-88-3	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	19	156-60-5	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	19	10061-02-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	19	110-57-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	19	79-01-6	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	19	75-69-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	19	108-05-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	19	75-01-4	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.20	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
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Date Issued: 10/17/2017 2:12:22PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 17J0120-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	19	1330-20-7	SW8260B	10/05/2017 18:43	10/05/2017 18:43	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	19	92.7 %	70-120	10/05/2017 18:43	10/05/2017 18:43							
Surr: 4-Bromofluorobenzene (Surr)	19	95.4 %	75-120	10/05/2017 18:43	10/05/2017 18:43							
Surr: Dibromofluoromethane (Surr)	19	87.5 %	80-119	10/05/2017 18:43	10/05/2017 18:43							
Surr: Toluene-d8 (Surr)	19	97.5 %	85-120	10/05/2017 18:43	10/05/2017 18:43							



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0126 - EPA200.2/R2.8										
Blank (BAJ0126-BLK1)				Prepared & Analyzed: 10/05/2017						
Cobalt	BLOD	4.0	ug/L							
Blank (BAJ0126-BLK2)				Prepared: 10/05/2017 Analyzed: 10/06/2017						
Cobalt	BLOD	4.0	ug/L							
LCS (BAJ0126-BS1)				Prepared & Analyzed: 10/05/2017						
Cobalt	502	4.0	ug/L	500		100	80-120			
LCS Dup (BAJ0126-BSD1)				Prepared & Analyzed: 10/05/2017						
Cobalt	508	4.0	ug/L	500		102	80-120	1.15	20	
Matrix Spike (BAJ0126-MS1)				Source: 17J0112-04 Prepared & Analyzed: 10/05/2017						
Cobalt	500	4.0	ug/L	500	4.0	99.2	75-125			
Matrix Spike (BAJ0126-MS2)				Source: 17J0112-08 Prepared & Analyzed: 10/05/2017						
Cobalt	487	4.0	ug/L	500	2.3	96.9	75-125			
Matrix Spike Dup (BAJ0126-MSD1)				Source: 17J0112-04 Prepared & Analyzed: 10/05/2017						
Cobalt	489	4.0	ug/L	500	4.0	97.1	75-125	2.15	20	
Matrix Spike Dup (BAJ0126-MSD2)				Source: 17J0112-08 Prepared & Analyzed: 10/05/2017						
Cobalt	474	4.0	ug/L	500	2.3	94.3	75-125	2.73	20	
Batch BAJ0173 - EPA200.2/R2.8										
Blank (BAJ0173-BLK1)				Prepared & Analyzed: 10/06/2017						
Cobalt	BLOD	4.0	ug/L							



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0173 - EPA200.2/R2.8										
LCS (BAJ0173-BS1)				Prepared & Analyzed: 10/06/2017						
Cobalt	513	4.0	ug/L	500		103	80-120			
LCS Dup (BAJ0173-BSD1)				Prepared & Analyzed: 10/06/2017						
Cobalt	514	4.0	ug/L	500		103	80-120	0.226	20	
Matrix Spike (BAJ0173-MS1)				Source: 17J0120-12		Prepared & Analyzed: 10/06/2017				
Cobalt	500	4.0	ug/L	500	BLOD	100	75-125			
Matrix Spike (BAJ0173-MS2)				Source: 17J0120-13		Prepared & Analyzed: 10/06/2017				
Cobalt	517	4.0	ug/L	500	BLOD	103	75-125			
Matrix Spike Dup (BAJ0173-MSD1)				Source: 17J0120-12		Prepared & Analyzed: 10/06/2017				
Cobalt	508	4.0	ug/L	500	BLOD	102	75-125	1.41	20	
Matrix Spike Dup (BAJ0173-MSD2)				Source: 17J0120-13		Prepared & Analyzed: 10/06/2017				
Cobalt	504	4.0	ug/L	500	BLOD	101	75-125	2.64	20	
Batch BAJ0219 - SW7470A										
Blank (BAJ0219-BLK1)				Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	BLOD	0.20	ug/L							
LCS (BAJ0219-BS1)				Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.46	0.20	ug/L	2.50		98.6	80-120			
LCS Dup (BAJ0219-BSD1)				Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.57	0.20	ug/L	2.50		103	80-120	4.04	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0219 - SW7470A

Matrix Spike (BAJ0219-MS1)		Source: 17J0112-08		Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.69	0.20	ug/L	2.50	BLOD	108	80-120			
Matrix Spike (BAJ0219-MS2)		Source: 17J0136-03		Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.14	0.20	ug/L	2.50	0.24	76.1	80-120			M
Matrix Spike Dup (BAJ0219-MSD1)		Source: 17J0112-08		Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.50	0.20	ug/L	2.50	BLOD	99.8	80-120	7.66	20	
Matrix Spike Dup (BAJ0219-MSD2)		Source: 17J0136-03		Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.13	0.20	ug/L	2.50	0.24	75.7	80-120	0.566	20	M



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Blank (BAJ0132-BLK1)

Prepared & Analyzed: 10/05/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,2,3-Trichloropropane	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2-Butanone (MEK)	BLOD	5.00	ug/L							
2-Hexanone (MBK)	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Benzene	BLOD	1.00	ug/L							
Bromochloromethane	BLOD	1.00	ug/L							
Bromodichloromethane	BLOD	0.50	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon disulfide	BLOD	10.0	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Blank (BAJ0132-BLK1)

Prepared & Analyzed: 10/05/2017

Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Dichlorodifluoromethane	BLOD	1.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Iodomethane	BLOD	10.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
Naphthalene	BLOD	1.00	ug/L							
o-Xylene	BLOD	1.00	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>49.5</i>		<i>ug/L</i>	<i>50.0</i>		<i>99.0</i>	<i>70-120</i>			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Blank (BAJ0132-BLK1)

Prepared & Analyzed: 10/05/2017

<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.5		ug/L	50.0		96.9	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	45.7		ug/L	50.0		91.4	80-119
<i>Surr: Toluene-d8 (Surr)</i>	49.4		ug/L	50.0		98.9	85-120

LCS (BAJ0132-BS1)

Prepared & Analyzed: 10/05/2017

1,1,1,2-Tetrachloroethane	53.1	0.4	ug/L	50.0		106	80-130
1,1,1-Trichloroethane	45.6	1	ug/L	50.0		91.2	65-130
1,1,2,2-Tetrachloroethane	50.9	0.4	ug/L	50.0		102	65-130
1,1,2-Trichloroethane	49.4	1	ug/L	50.0		98.8	75-125
1,1-Dichloroethane	45.8	1	ug/L	50.0		91.7	70-135
1,1-Dichloroethylene	45.2	1	ug/L	50.0		90.5	70-130
1,2,3-Trichloropropane	49.0	1	ug/L	50.0		98.0	75-125
1,2-Dichlorobenzene	55.0	1	ug/L	50.0		110	70-120
1,2-Dichloroethane	40.3	1	ug/L	50.0		80.5	70-130
1,2-Dichloropropane	48.1	1	ug/L	50.0		96.2	75-125
1,4-Dichlorobenzene	53.5	1	ug/L	50.0		107	75-125
2-Butanone (MEK)	38.3	5	ug/L	50.0		76.6	30-150
2-Hexanone (MBK)	47.8	5	ug/L	50.0		95.5	55-130
4-Methyl-2-pentanone (MIBK)	42.8	5	ug/L	50.0		85.6	60-135
Acetone	38.9	10	ug/L	50.0		77.8	40-140
Acrylonitrile	182	5	ug/L	250		72.7	70-130
Benzene	47.4	1	ug/L	50.0		94.8	80-120
Bromochloromethane	43.4	1	ug/L	50.0		86.8	65-130
Bromodichloromethane	47.0	0.5	ug/L	50.0		94.1	75-120
Bromoform	48.7	1	ug/L	50.0		97.4	70-130



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

LCS (BAJ0132-BS1)

Prepared & Analyzed: 10/05/2017

Bromomethane	36.3	1	ug/L	50.0		72.6	30-145			
Carbon disulfide	40.3	10	ug/L	50.0		80.6	35-160			
Carbon tetrachloride	45.1	1	ug/L	50.0		90.1	65-140			
Chlorobenzene	52.8	1	ug/L	50.0		106	80-120			
Chloroethane	38.7	1	ug/L	50.0		77.3	60-135			
Chloroform	40.8	0.5	ug/L	50.0		81.7	65-135			
Chloromethane	31.4	1	ug/L	50.0		62.8	40-125			
cis-1,2-Dichloroethylene	43.6	1	ug/L	50.0		87.1	70-125			
cis-1,3-Dichloropropene	47.8	1	ug/L	50.0		95.7	70-130			
Dibromochloromethane	42.1	0.5	ug/L	50.0		84.2	60-135			
Dibromomethane	45.1	1	ug/L	50.0		90.2	75-125			
Dichlorodifluoromethane	35.8	1	ug/L	50.0		71.5	30-155			
Ethylbenzene	51.7	1	ug/L	50.0		103	75-125			
m+p-Xylenes	108	2	ug/L	100		108	75-130			
Methylene chloride	38.5	4	ug/L	50.0		77.0	55-140			
Naphthalene	52.4	1	ug/L	50.0		105	55-140			
o-Xylene	53.2	1	ug/L	50.0		106	80-120			
Styrene	52.8	1	ug/L	50.0		106	65-135			
Tetrachloroethylene (PCE)	76.5	1	ug/L	50.0		153	45-150			L
Toluene	48.0	1	ug/L	50.0		96.0	75-120			
trans-1,2-Dichloroethylene	44.7	1	ug/L	50.0		89.3	60-140			
trans-1,3-Dichloropropene	42.1	1	ug/L	50.0		84.2	55-140			
Trichloroethylene	48.1	1	ug/L	50.0		96.2	70-125			
Trichlorofluoromethane	40.8	1	ug/L	50.0		81.6	60-145			
Vinyl chloride	36.9	0.5	ug/L	50.0		73.7	50-145			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

LCS (BAJ0132-BS1)

Prepared & Analyzed: 10/05/2017

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	47.8		ug/L	50.0		95.5	70-120
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.4		ug/L	50.0		96.7	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	45.3		ug/L	50.0		90.6	80-119
<i>Surr: Toluene-d8 (Surr)</i>	48.7		ug/L	50.0		97.5	85-120

Duplicate (BAJ0132-DUP1)

Source: 17J0120-03

Prepared & Analyzed: 10/05/2017

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD		NA	30
1,1,1-Trichloroethane	BLOD	1.00	ug/L		BLOD		NA	30
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD		NA	30
1,1,2-Trichloroethane	BLOD	1.00	ug/L		BLOD		NA	30
1,1-Dichloroethane	BLOD	1.00	ug/L		BLOD		NA	30
1,1-Dichloroethylene	BLOD	1.00	ug/L		BLOD		NA	30
1,2,3-Trichloropropane	BLOD	1.00	ug/L		BLOD		NA	30
1,2-Dichlorobenzene	BLOD	1.00	ug/L		BLOD		NA	30
1,2-Dichloroethane	BLOD	1.00	ug/L		BLOD		NA	30
1,2-Dichloropropane	BLOD	1.00	ug/L		BLOD		NA	30
1,4-Dichlorobenzene	0.61	1.00	ug/L		0.73		NA	30
2-Butanone (MEK)	BLOD	5.00	ug/L		BLOD		NA	30
2-Hexanone (MBK)	BLOD	5.00	ug/L		BLOD		NA	30
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L		BLOD		NA	30
Acetone	BLOD	10.0	ug/L		BLOD		NA	30
Acrylonitrile	BLOD	5.00	ug/L		BLOD		NA	30
Benzene	0.64	1.00	ug/L		0.65		NA	30
Bromochloromethane	BLOD	1.00	ug/L		BLOD		NA	30
Bromodichloromethane	BLOD	0.50	ug/L		BLOD		NA	30



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Duplicate (BAJ0132-DUP1)	Source: 17J0120-03			Prepared & Analyzed: 10/05/2017						
Bromoform	BLOD	1.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	9.29	1.00	ug/L		9.34			0.601	30	
Chloroethane	0.34	1.00	ug/L		0.46			NA	30	P
Chloroform	BLOD	0.50	ug/L		BLOD			NA	30	
Chloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	0.42	1.00	ug/L		0.37			NA	30	
cis-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	0.50	ug/L		BLOD			NA	30	
Dibromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Iodomethane	BLOD	10.0	ug/L		BLOD			NA	30	
m+p-Xylenes	BLOD	2.00	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	4.00	ug/L		BLOD			NA	30	
Naphthalene	BLOD	1.00	ug/L		BLOD			NA	30	
o-Xylene	BLOD	1.00	ug/L		BLOD			NA	30	
Styrene	BLOD	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L		BLOD			NA	30	
Toluene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L		BLOD			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Duplicate (BAJ0132-DUP1)		Source: 17J0120-03			Prepared & Analyzed: 10/05/2017					
Trichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	BLOD	3.00	ug/L		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>96.4</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>48.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.6</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>45.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>91.6</i>	<i>80-119</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>48.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.4</i>	<i>85-120</i>			

Duplicate (BAJ0132-DUP2)		Source: 17J0176-05			Prepared & Analyzed: 10/05/2017					
1,1,1,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	2.00	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	5.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	65.1	25.0	ug/L		64.9			0.362	30	
2-Hexanone (MBK)	BLOD	25.0	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLOD	25.0	ug/L		BLOD			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Duplicate (BAJ0132-DUP2)	Source: 17J0176-05			Prepared & Analyzed: 10/05/2017						
Acetone	27400	50.0	ug/L		27000			1.51	30	
Acrylonitrile	BLOD	25.0	ug/L		BLOD			NA	30	
Benzene	BLOD	5.00	ug/L		BLOD			NA	30	
Bromochloromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Bromodichloromethane	BLOD	2.50	ug/L		BLOD			NA	30	
Bromoform	BLOD	5.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	50.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	5.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	5.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	5.00	ug/L		BLOD			NA	30	
Chloroform	127	2.50	ug/L		123			2.76	30	
Chloromethane	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	2.50	ug/L		BLOD			NA	30	
Dibromomethane	BLOD	5.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	78.1	5.00	ug/L		73.5			6.02	30	
Iodomethane	BLOD	50.0	ug/L		BLOD			NA	30	
m+p-Xylenes	383	10.0	ug/L		362			5.72	30	
Methylene chloride	BLOD	20.0	ug/L		BLOD			NA	30	
Naphthalene	78.3	5.00	ug/L		71.0			9.84	30	
o-Xylene	311	5.00	ug/L		292			6.44	30	
Styrene	1.08	5.00	ug/L		0.84			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Duplicate (BAJ0132-DUP2)		Source: 17J0176-05			Prepared & Analyzed: 10/05/2017					
Tetrachloroethylene (PCE)	4.03	5.00	ug/L		3.97			NA	30	
Toluene	3330	5.00	ug/L		3170			5.03	30	
trans-1,2-Dichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	5.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	20.0	ug/L		BLOD			NA	30	
Trichloroethylene	BLOD	5.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	5.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	50.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	2.50	ug/L		BLOD			NA	30	
Xylenes, Total	694	15.0	ug/L		654			6.04	30	
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.0</i>		<i>ug/L</i>		<i>50.0</i>			<i>96.0</i>	<i>70-120</i>	
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>49.5</i>		<i>ug/L</i>		<i>50.0</i>			<i>98.9</i>	<i>75-120</i>	
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>44.4</i>		<i>ug/L</i>		<i>50.0</i>			<i>88.8</i>	<i>80-119</i>	
<i>Surr: Toluene-d8 (Surr)</i>	<i>48.4</i>		<i>ug/L</i>		<i>50.0</i>			<i>96.8</i>	<i>85-120</i>	

Matrix Spike (BAJ0132-MS1)		Source: 17J0120-02			Prepared & Analyzed: 10/05/2017					
1,1,1,2-Tetrachloroethane	48.6	0.4	ug/L	50.0	BLOD	97.1	80-130			
1,1,1-Trichloroethane	42.4	1	ug/L	50.0	BLOD	84.9	65-130			
1,1,2,2-Tetrachloroethane	48.7	0.4	ug/L	50.0	BLOD	97.4	65-130			
1,1,2-Trichloroethane	47.6	1	ug/L	50.0	BLOD	95.1	75-125			
1,1-Dichloroethane	43.8	1	ug/L	50.0	0.63	86.4	70-135			
1,1-Dichloroethylene	42.3	1	ug/L	50.0	BLOD	84.5	70-130			
1,2,3-Trichloropropane	46.4	1	ug/L	50.0	BLOD	92.8	75-125			
1,2-Dichlorobenzene	50.0	1	ug/L	50.0	0.34	99.4	70-120			
1,2-Dichloroethane	39.2	1	ug/L	50.0	BLOD	78.5	70-130			



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Matrix Spike (BAJ0132-MS1)	Source: 17J0120-02			Prepared & Analyzed: 10/05/2017						
1,2-Dichloropropane	46.0	1	ug/L	50.0	BLOD	92.0	75-125			
1,4-Dichlorobenzene	59.8	1	ug/L	50.0	13.4	92.8	75-125			
2-Butanone (MEK)	38.2	5	ug/L	50.0	BLOD	76.4	30-150			
2-Hexanone (MBK)	43.6	5	ug/L	50.0	BLOD	87.2	55-130			
4-Methyl-2-pentanone (MIBK)	42.8	5	ug/L	50.0	BLOD	85.5	60-135			
Acetone	38.3	10	ug/L	50.0	BLOD	72.0	40-140			
Acrylonitrile	182	5	ug/L	250	BLOD	73.0	70-130			
Benzene	46.6	1	ug/L	50.0	2.28	88.7	80-120			
Bromochloromethane	42.2	1	ug/L	50.0	BLOD	84.3	65-130			
Bromodichloromethane	46.0	0.5	ug/L	50.0	BLOD	92.0	75-120			
Bromoform	44.8	1	ug/L	50.0	BLOD	89.5	70-130			
Bromomethane	34.2	1	ug/L	50.0	BLOD	68.5	30-145			
Carbon disulfide	39.4	10	ug/L	50.0	BLOD	78.7	35-160			
Carbon tetrachloride	41.4	1	ug/L	50.0	BLOD	82.7	65-140			
Chlorobenzene	53.6	1	ug/L	50.0	6.29	94.6	80-120			
Chloroethane	37.5	1	ug/L	50.0	1.07	72.8	60-135			
Chloroform	38.9	0.5	ug/L	50.0	BLOD	77.8	65-135			
Chloromethane	29.6	1	ug/L	50.0	BLOD	59.2	40-125			
cis-1,2-Dichloroethylene	44.6	1	ug/L	50.0	3.56	82.0	70-125			
cis-1,3-Dichloropropene	43.8	1	ug/L	50.0	BLOD	87.7	70-130			
Dibromochloromethane	40.1	0.5	ug/L	50.0	BLOD	80.2	60-135			
Dibromomethane	43.4	1	ug/L	50.0	BLOD	86.9	75-125			
Dichlorodifluoromethane	31.6	1	ug/L	50.0	BLOD	63.1	30-155			
Ethylbenzene	47.3	1	ug/L	50.0	BLOD	94.5	75-125			
m+p-Xylenes	98.2	2	ug/L	100	BLOD	98.0	75-130			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0132 - SW5030B

Matrix Spike (BAJ0132-MS1)	Source: 17J0120-02			Prepared & Analyzed: 10/05/2017						
Methylene chloride	37.1	4	ug/L	50.0	BLOD	73.5	55-140			
Naphthalene	48.9	1	ug/L	50.0	0.42	97.0	55-140			
o-Xylene	49.2	1	ug/L	50.0	0.11	98.2	80-120			
Styrene	48.8	1	ug/L	50.0	BLOD	97.5	65-135			
Tetrachloroethylene (PCE)	67.7	1	ug/L	50.0	BLOD	135	45-150			
Toluene	45.5	1	ug/L	50.0	0.68	89.6	75-120			
trans-1,2-Dichloroethylene	41.4	1	ug/L	50.0	BLOD	82.7	60-140			
trans-1,3-Dichloropropene	38.6	1	ug/L	50.0	BLOD	77.3	55-140			
Trichloroethylene	45.4	1	ug/L	50.0	0.27	90.2	70-125			
Trichlorofluoromethane	36.9	1	ug/L	50.0	BLOD	73.8	60-145			
Vinyl chloride	35.5	0.5	ug/L	50.0	0.50	69.9	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	48.4		ug/L	50.0		96.8	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.4		ug/L	50.0		96.8	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.4		ug/L	50.0		92.8	80-119			
<i>Surr: Toluene-d8 (Surr)</i>	49.2		ug/L	50.0		98.5	85-120			



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Head Space Analysis by GC - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0244 - No Prep VOC										
Blank (BAJ0244-BLK1)				Prepared & Analyzed: 10/09/2017						
Methane	BLOD	5.0	ug/L							
<i>Surr: Acetylene (Surr)</i>	407		ug/L	432		94.2	70-130			
LCS (BAJ0244-BS1)				Prepared & Analyzed: 10/09/2017						
Methane	246	5.0	ug/L	266		92.4	70-130			
<i>Surr: Acetylene (Surr)</i>	420		ug/L	432		97.3	70-130			
LCS Dup (BAJ0244-BSD1)				Prepared & Analyzed: 10/09/2017						
Methane	251	5.0	ug/L	266		94.3	70-130	2.03	20	
<i>Surr: Acetylene (Surr)</i>	417		ug/L	432		96.6	70-130			
Matrix Spike (BAJ0244-MS1)				Source: 17J0120-01		Prepared & Analyzed: 10/09/2017				
Methane	254	5.0	ug/L	266	BLOD	95.6	70-130			
<i>Surr: Acetylene (Surr)</i>	449		ug/L	432		104	70-130			
Matrix Spike Dup (BAJ0244-MSD1)				Source: 17J0120-01		Prepared & Analyzed: 10/09/2017				
Methane	250	5.0	ug/L	266	BLOD	94.1	70-130	1.56	20	
<i>Surr: Acetylene (Surr)</i>	454		ug/L	432		105	70-130			



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0102 - No Prep Wet Chem										
Blank (BAJ0102-BLK1)				Prepared & Analyzed: 10/04/2017						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BAJ0102-BS1)				Prepared & Analyzed: 10/04/2017						
Nitrite as N	0.10	0.05	mg/L	0.100		102	80-120			
Matrix Spike (BAJ0102-MS1)				Source: 17J0078-21		Prepared & Analyzed: 10/04/2017				
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	89.0	80-120			
Matrix Spike Dup (BAJ0102-MSD1)				Source: 17J0078-21		Prepared & Analyzed: 10/04/2017				
Nitrite as N	0.09	0.05	mg/L	0.100	BLOD	89.0	80-120	0.00	20	
Batch BAJ0156 - No Prep Wet Chem										
Blank (BAJ0156-BLK1)				Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	BLOD	0.10	mg/L							
LCS (BAJ0156-BS1)				Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	2.64	0.1	mg/L	2.50		106	90-110			
Matrix Spike (BAJ0156-MS1)				Source: 17J0078-17		Prepared & Analyzed: 10/05/2017				
Nitrate+Nitrite as N	3.72	0.10	mg/L	2.50	1.53	87.6	90-110			M
Matrix Spike Dup (BAJ0156-MSD1)				Source: 17J0078-17		Prepared & Analyzed: 10/05/2017				
Nitrate+Nitrite as N	3.74	0.10	mg/L	2.50	1.53	88.3	90-110	0.483	20	M
Batch BAJ0158 - No Prep Wet Chem										
Blank (BAJ0158-BLK1)				Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	BLOD	0.10	mg/L							



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0158 - No Prep Wet Chem										
LCS (BAJ0158-BS1)				Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	2.65	0.1	mg/L	2.50		106	90-110			
Matrix Spike (BAJ0158-MS1)				Source: 17J0120-17 Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	3.04	0.10	mg/L	2.50	0.17	115	90-110			M
Matrix Spike Dup (BAJ0158-MSD1)				Source: 17J0120-17 Prepared & Analyzed: 10/05/2017						
Nitrate+Nitrite as N	3.04	0.10	mg/L	2.50	0.17	115	90-110	0.00	20	M
Batch BAJ0230 - No Prep Wet Chem										
Blank (BAJ0230-BLK1)				Prepared & Analyzed: 10/09/2017						
Sulfide	BLOD	1.00	mg/L							
LCS (BAJ0230-BS1)				Prepared & Analyzed: 10/09/2017						
Sulfide	4.68	1	mg/L	5.00		93.6	80-120			
LCS Dup (BAJ0230-BSD1)				Prepared & Analyzed: 10/09/2017						
Sulfide	4.85	1	mg/L	5.00		97.0	80-120	3.57	20	
Matrix Spike (BAJ0230-MS1)				Source: 17J0120-17 Prepared & Analyzed: 10/09/2017						
Sulfide	5.48	1.00	mg/L	5.00	BLOD	110	75-125			
Matrix Spike (BAJ0230-MS2)				Source: 17J0136-03 Prepared & Analyzed: 10/09/2017						
Sulfide	2.87	1.00	mg/L	5.00	BLOD	57.4	75-125			M
Matrix Spike Dup (BAJ0230-MSD1)				Source: 17J0120-17 Prepared & Analyzed: 10/09/2017						
Sulfide	5.26	1.00	mg/L	5.00	BLOD	105	75-125	4.10	20	



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Wet Chemistry Analysis - Quality Control
 Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0230 - No Prep Wet Chem										
Matrix Spike Dup (BAJ0230-MSD2)		Source: 17J0136-03			Prepared & Analyzed: 10/09/2017					
Sulfide	3.83	1.00	mg/L	5.00	BLOD	76.6	75-125	28.7	20	P
Batch BAJ0385 - No Prep Wet Chem										
Blank (BAJ0385-BLK1)					Prepared & Analyzed: 10/16/2017					
Alkalinity	BLOD	5.0	mg/L							
LCS (BAJ0385-BS1)					Prepared: 10/12/2017 Analyzed: 10/16/2017					
Alkalinity	51.4	5.0	mg/L	50.0		103	80-120			
LCS Dup (BAJ0385-BSD1)					Prepared: 10/12/2017 Analyzed: 10/16/2017					
Alkalinity	51.4	5.0	mg/L	50.0		103	80-120	0.00	20	
Matrix Spike (BAJ0385-MS1)		Source: 17J0120-14			Prepared: 10/12/2017 Analyzed: 10/16/2017					
Alkalinity	65.2	5.0	mg/L	50.0	48.0	34.4	75-125			M
Matrix Spike Dup (BAJ0385-MSD1)		Source: 17J0120-14			Prepared: 10/12/2017 Analyzed: 10/16/2017					
Alkalinity	65.0	5.0	mg/L	50.0	48.0	34.0	75-125	0.307	20	M
Batch BAJ0435 - No Prep IC										
Blank (BAJ0435-BLK1)					Prepared & Analyzed: 10/12/2017					
Chloride	BLOD	1.0	mg/L							
LCS (BAJ0435-BS1)					Prepared & Analyzed: 10/12/2017					
Chloride	4.8	1	mg/L	5.00		96.7	90-110			



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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0435 - No Prep IC										
LCS Dup (BAJ0435-BSD1)				Prepared & Analyzed: 10/12/2017						
Chloride	4.9	1	mg/L	5.00		98.0	90-110	1.42	15	
Matrix Spike (BAJ0435-MS2)				Prepared & Analyzed: 10/13/2017						
Chloride	5.7	1	mg/L	5.00	1.1	92.3	90-110			
Matrix Spike Dup (BAJ0435-MSD2)				Prepared & Analyzed: 10/13/2017						
Chloride	5.7	1	mg/L	5.00	1.1	92.1	90-110	0.175	15	



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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method:	EPA200.2/R2.8	
17J0120-02	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-03	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-04	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-05	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-06	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-07	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-08	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-09	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-10	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-11	50.0 mL / 50.0 mL	SW6010C	BAJ0126	SAJ0158	AJ70020
17J0120-12	50.0 mL / 50.0 mL	SW6010C	BAJ0173	SAJ0186	AJ70029
17J0120-13	50.0 mL / 50.0 mL	SW6010C	BAJ0173	SAJ0186	AJ70029

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep IC	
17J0120-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009
17J0120-14	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009
17J0120-14RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009
17J0120-15	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009
17J0120-16	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009
17J0120-17	1.00 mL / 1.00 mL	EPA300.0 R2.1	BAJ0435	SAJ0380	AJ70009

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	No Prep VOC	
17J0120-01	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	No Prep VOC	
17J0120-14	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081
17J0120-15	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081
17J0120-16	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081
17J0120-16RE1	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081
17J0120-17	5.00 mL / 5.00 mL	RSK175M	BAJ0244	SAJ0228	AB70081

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
17J0120-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAJ0102	SAJ0095	AG70057
17J0120-14	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAJ0102	SAJ0095	AG70057
17J0120-15	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAJ0102	SAJ0095	AG70057
17J0120-16	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAJ0102	SAJ0095	AG70057
17J0120-17	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BAJ0102	SAJ0095	AG70057
17J0120-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAJ0156	SAJ0156	AJ70023
17J0120-14	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAJ0158	SAJ0156	AJ70023
17J0120-15	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAJ0158	SAJ0156	AJ70023
17J0120-16	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAJ0158	SAJ0156	AJ70023
17J0120-17	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BAJ0158	SAJ0156	AJ70023
17J0120-14	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0120-15	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0120-16	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0120-17	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0120-01	50.0 mL / 50.0 mL	SM22 2320B-2011	BAJ0385	SAJ0384	
17J0120-14	50.0 mL / 50.0 mL	SM22 2320B-2011	BAJ0385	SAJ0384	
17J0120-15	50.0 mL / 50.0 mL	SM22 2320B-2011	BAJ0385	SAJ0384	
17J0120-16	50.0 mL / 50.0 mL	SM22 2320B-2011	BAJ0385	SAJ0384	
17J0120-17	50.0 mL / 50.0 mL	SM22 2320B-2011	BAJ0385	SAJ0384	



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method:	SW5030B	
17J0120-02	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-03	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-04	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-05	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-06	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-07	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-08	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-09	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-10	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-11	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-12	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-13	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-14	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-15	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-16	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-17	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-18	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012
17J0120-19	5.00 mL / 5.00 mL	SW8260B	BAJ0132	SAJ0124	AJ70012

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method:	SW7470A	
17J0120-14	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0120-15	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0120-16	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0120-17	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0120-18	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0120-19	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA300.0 R2.1 in Non-Potable Water</i>	
Chloride	VELAP,NC,WVDEP
<i>RSK175M in Non-Potable Water</i>	
Methane	VELAP
<i>SM22 2320B-2011 in Non-Potable Water</i>	
Alkalinity	VELAP,WVDEP
<i>SM22 4500-NO2B-2011 in Non-Potable Water</i>	
Nitrite as N	VELAP,WVDEP
<i>SM22 4500-NO3F-2011 in Non-Potable Water</i>	
Nitrate+Nitrite as N	VELAP,WVDEP
<i>SW6010C in Non-Potable Water</i>	
Cobalt	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8260B in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Certified Analyses included in this Report

Analyte	Certifications
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP

SW9215 in Non-Potable Water

Sulfide	VELAP
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Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DENR	495	12/31/2017
PADEP	NELAC-Pennsylvania	001	10/31/2017
VELAP Certificate #4337	NELAC-Virginia Certificate #9439	460021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2017



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Qualifiers and Definitions

- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLOD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: Jovic Engineering, Inc.	INVOICE TO: Delpeger Environmental Services	PROJECT NAME/CLIENT # : Litchfield Correctional Center/100
CONTACT: John White	INVOICE CONTACT: Paul Howard	SITE NAME: Litchfield Correctional Center/100/100000
ADDRESS: 1804 Owyhee Lane, Richmond VA 23220	INVOICE ADDRESS: 1804 Owyhee Lane, Richmond VA 23220	PROJECT NUMBER: Job No. 200100010000
PHONE # : (804) 358-4200	INVOICE PHONE # : (804) 737-2448	P.O. #:
FAX # : (804) 358-4202	E-MAIL: jwhite@jovic-engineering.com	Pre-treatment Program:

Is sample for compliance reporting? YES NO Is sample from a contaminated supply? YES NO PWS ID # _____

SAMPLER NAME (PRINT): *J. Locke* SAMPLER SIGNATURE: *[Signature]* Turn Round Time: 10 Days

Mark Codes: 00=Blank 01=Blank Water 02=Groundwater 03=Surface Water 04=Stormwater 05=Drinking Water 06=Other

CLIENT SAMPLE ID:	Grab	Composite	Composite (Passport Minimum)	Composite (Spot Urine)	Composite (Spot Urine)	Grab Balance Composite (Use Date)	Grab Temperature Composite (Use Date)	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE):							COMMENTS
											1,4-DCP's-2000 / polychlorinated biphenyls (PCB)	Aspartame-2000 (µg/L)	Cadmium (µg/L)	Mercury (µg/L)	Nitrate (µg/L)	Ammonia / Chloride / NO2	Methane (µg/L)		Residue (µg/L + 2000)
01 MW-20																		
02 MW-1																		
03 MW-X1																		
04 CF-1																		
05 MW-3																		
06 MW-5																		
07 MW-10																		
08 MW-12																		
09 MW-13																		
10 MW-14																		
11 MW-15																		
12 MW-16																		
13 MW-17																		

DC Data Package LAB USE ONLY COOLER TEMP: 10 °C

JEI-R 1/2/01 BW
 Litchfield Correctional Center Wt
 Rich 1000001 Date 1/2/01

CHAIN OF CUSTODY

COMPANY NAME: Joyce Engineering, Inc.		INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: LVCSLF Corrective Action Well
CONTACT: Jake White		INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpeper)
ADDRESS: 1604 Ownby Lane, Richmond, VA 23220		INVOICE ADDRESS: 118 West Davis Street, Suite 101, Culpeper, VA 22701	PROJECT NUMBER: Job No. 395-1701.01.02 (JCA)
PHONE #: (804) 358-8295		INVOICE PHONE #: (540) 727-2808	P.O. #:
FAX #: (804) 355-4382	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:	

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *B. Coche* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Day(s)

Matrix Codes: WW=Waste Water/Storm Water GWP=Ground Water DW=Drinking Water S=Soil/Solids O=Organic A=Air WP=Wipe CP=Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS
											3,14 VOC's-0260 + dichlorodifluoromethane (HCL)	Naphthalene-0260 (HCL)	Cobalt (HNO3)	Mercury (HNO3)	Nitrate (H2SO4)	Alkalinity / Chloride / NO2	Methane (HCL)	Sulfide (NaOH + ZnAc)	
1) MW-1G	X					10/3/17	1205		GW	3	X	X	X	X	X	X	X		
2) MW-1H	X					10/4/17	0755			4	X	X	X	X	X	X	X		
3) MW-1I	X					10/3/17	1320			2	X	X	X	X	X	X	X		
4) MW-X2	X					10/4/17	1010			9	X	X	X	X	X	X	X		
5) CF-15A	X						0850			9	X	X	X	X	X	X	X		
6) B-4E	X						0910			9	X	X	X	X	X	X	X		
7) CLF-S3	X						0830			9	X	X	X	X	X	X	X		
8) MW-X2D	X					10/3/17	0740			3	X	X	X	X	X	X	X	<i>off site on ice</i>	
9) CLF-S1	X					10/4/17	0835			4	X	X	X	X	X	X	X		

RECEIVED: <i>[Signature]</i> DATE / TIME: 10/4/17 1455 RECEIVED: <i>[Signature]</i> DATE / TIME: 10/2/17 1458 RECEIVED: _____ DATE / TIME: _____	DC Data Package Level I <input type="checkbox"/> Level II <input checked="" type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/>	LAB USE ONLY JEI-R Laurel Valley Corrective Action We Recd: 10/04/2017 Due: 10/18/2017	COOLER TEMP <u>20</u> °C 17J0120
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ಕರ್ನಾಟಕ ಪದವಿ ಹಾಗೂ ಯುಜಿಪಿ

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಬೆಂಗಳೂರು
ಕೆ.ಆರ್.ಪೇಟೆ
ಜಿ.ಆರ್.ಸಿ.ಸಿ.ಆರ್.ಇ.ಎಂ.ಸಿ.ಇ.ಇ.

ಕ್ರಮ ಸಂಖ್ಯೆ: 17/2018

ಬಿ.ಒ.ಎಸ್.ಎಸ್. ಹಾಗೂ ಪಿ.ಎಸ್.ಸಿ. ಹುದ್ದೆಗಳಿಗೆ

ಅರ್ಜಿ ಸಲ್ಲಿಕೆ ಪ್ರಕ್ರಿಯೆ



ಕ್ರ. ಸಂಖ್ಯೆ	ಪದವಿ ಹುದ್ದೆ	ಪ್ರತಿ	ಅರ್ಜಿ ಸಲ್ಲಿಕೆಯ ಅವಧಿ			ಪರೀಕ್ಷೆ			ಅರ್ಜಿ ಸಲ್ಲಿಕೆಗೆ ಬಂದ ಅಂಶ	ಸಂಪೂರ್ಣ ಅಂಶ	ಸಂಪೂರ್ಣ ಅಂಶದ ಶೇ.ಗೊ.	ಸಂಪೂರ್ಣ ಅಂಶದ ಶೇ.ಗೊ. 50 ರಿಂದ ಹೆಚ್ಚಿರುವ ಅಭ್ಯರ್ಥಿಗಳ ಪಟ್ಟಿ	ಸಂಪೂರ್ಣ ಅಂಶದ ಶೇ.ಗೊ. 50 ರಿಂದ ಕಡಿಮೆಯಿರುವ ಅಭ್ಯರ್ಥಿಗಳ ಪಟ್ಟಿ
			ಆರಂಭ	ಮುಕ್ತಾಯ	ದಿನ	ದಿನ	ಮಾಹಿತಿ	ಮಾಹಿತಿ					

ಸಾರ್ವಜನಿಕ ಸಂಪನ್ಮೂಲಗಳ ಆಯ್ಕೆ ಸಮಿತಿ
 ಅಧಿಕಾರಿಗಳು
 ಜಿ.ಆರ್.ಸಿ.ಸಿ.ಆರ್.ಇ.ಎಂ.ಸಿ.ಇ.ಇ.

ಅಧಿಕಾರಿಗಳು
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DATE: 08/26/2013
TIME: 13:00
BY: [illegible]
UNIT: [illegible]

Sample Reservation Log

Sample Reservation Log

Sample ID	Quantity	Unit	Mfg. Part No.	Part Name	Part Description	Drawn From	Drawn By	Drawn Date	Drawn Time	Reservation Details			Status	Notes
										Quantity	Unit	Unit Price		

Rev: 1.0, Date: 08/26/2013, Drawn By: [illegible], Drawn Date: 08/26/2013, Drawn Time: 13:00
 Part No: [illegible], Part Name: [illegible], Part Description: [illegible], Drawn From: [illegible], Drawn By: [illegible], Drawn Date: 08/26/2013, Drawn Time: 13:00
 Unit Price: [illegible]
 Total: [illegible]
 Part No: [illegible], Part Name: [illegible], Part Description: [illegible], Drawn From: [illegible], Drawn By: [illegible], Drawn Date: 08/26/2013, Drawn Time: 13:00
 Unit Price: [illegible]
 Total: [illegible]



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/17/2017 2:12:22PM

Sample Conditions Checklist

Samples Received at:	2.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 6°C) or received on ice and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

For Trip Blank see 17J0137-03. BAR 10/05/17 0846



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Sample Delivery Group ID Laurel Valley Comp 171004

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Issued: 10/29/2020 10:24:44AM

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group Laurel Valley Comp 171004 . Work orders included in the sample delivery group:

<u>Work Order</u>	<u>Receive Date</u>	<u>Project Number</u>
17J0136	10/4/2017 2:55:48PM	310.1701.03.01

Ted Soyars

Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.

Analysis Detects Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Laboratory Sample ID: 17J0136-01

Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6010D	9.9	J	2.0	10.0	1	ug/L

Laboratory Sample ID: 17J0136-02

Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	02	SW6020B	1.6	J	1.0	5.0	1	ug/L
Barium	02	SW6010D	290		2.0	10.0	1	ug/L
Cadmium	02	SW6010D	2.0	J	2.0	4.0	1	ug/L
Chromium	02	SW6010D	14.5		4.0	10.0	1	ug/L
Cobalt	02	SW6010D	130		2.0	4.0	1	ug/L
Copper	02	SW6010D	3.8	J	3.0	10.0	1	ug/L
Lead	02	SW6010D	0.0071	J	0.0060	0.0100	1	mg/L
Nickel	02	SW6010D	11.6		2.0	10.0	1	ug/L
Selenium	02	SW6010D	24.4	J	15.0	50.0	1	ug/L
Zinc	02	SW6010D	15.0		10.0	10.0	1	ug/L
1,1-Dichloroethane	02	SW8260D	0.46	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	3.58		0.20	1.00	1	ug/L
Acetone	02	SW8260D	11.8		7.00	10.0	1	ug/L
Benzene	02	SW8260D	0.36	J	0.20	1.00	1	ug/L
Chlorobenzene	02	SW8260D	1.02		0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	2.67		0.20	1.00	1	ug/L
Trichloroethylene	02	SW8260D	0.22	J	0.20	1.00	1	ug/L
Vinyl chloride	02	SW8260D	0.30	J	0.20	0.50	1	ug/L

Analysis Detects Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Laboratory Sample ID: 17J0136-03 Client Sample ID: MW-1B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010D	171		2.0	10.0	1	ug/L
Cobalt	03	SW6010D	31.1		2.0	4.0	1	ug/L
Mercury	03	SW7470A	0.24		0.20	0.20	1	ug/L
Nickel	03	SW6010D	8.0	J	2.0	10.0	1	ug/L
Selenium	03	SW6010D	30.2	J	15.0	50.0	1	ug/L
1,1-Dichloroethane	03	SW8260D	11.9		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	03	SW8260D	0.27	J	0.20	1.00	1	ug/L
1,2-Dichloroethane	03	SW8260D	0.71	J	0.30	1.00	1	ug/L
1,2-Dichloropropane	03	SW8260D	0.78	J	0.30	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260D	4.94		0.20	1.00	1	ug/L
Benzene	03	SW8260D	1.48		0.20	1.00	1	ug/L
Chlorobenzene	03	SW8260D	2.20		0.10	1.00	1	ug/L
Chloroethane	03	SW8260D	2.43		0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260D	15.9		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	03	SW8260D	0.22	J	0.20	1.00	1	ug/L
trans-1,2-Dichloroethylene	03	SW8260D	0.31	J	0.20	1.00	1	ug/L
Trichloroethylene	03	SW8260D	1.75		0.20	1.00	1	ug/L
Vinyl chloride	03	SW8260D	3.50		0.20	0.50	1	ug/L
bis (2-Ethylhexyl) phthalate	03	SW8270E	1.18	J	1.06	2.66	1	ug/L

Analysis Detects Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Laboratory Sample ID: 17J0136-04 Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6010D	263		2.0	10.0	1	ug/L
Cobalt	04	SW6010D	18.5		2.0	4.0	1	ug/L
Nickel	04	SW6010D	80.9		2.0	10.0	1	ug/L
Selenium	04	SW6010D	47.8	J	15.0	50.0	1	ug/L
Silver	04	SW6010D	2.3	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	04	SW8260D	4.74		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260D	1.13		0.20	1.00	1	ug/L
1,2-Dichloropropane	04	SW8260D	0.32	J	0.30	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260D	13.7		0.20	1.00	1	ug/L
Benzene	04	SW8260D	1.34		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260D	11.9		0.10	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260D	5.64		0.20	1.00	1	ug/L
Tetrachloroethylene (PCE)	04	SW8260D	0.38	J	0.20	1.00	1	ug/L
Trichloroethylene	04	SW8260D	1.98		0.20	1.00	1	ug/L
Vinyl chloride	04	SW8260D	0.78		0.20	0.50	1	ug/L
bis (2-Ethylhexyl) phthalate	04	SW8270E	2.81		1.10	2.75	1	ug/L
Diethyl phthalate	04	SW8270E	3.37	J	1.10	11.0	1	ug/L

Analysis Detects Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Laboratory Sample ID: 17J0136-05 Client Sample ID: MW-4

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6010D	46.9		2.0	10.0	1	ug/L
Cobalt	05	SW6010D	11.8		2.0	4.0	1	ug/L
Nickel	05	SW6010D	8.6	J	2.0	10.0	1	ug/L
Vanadium	05	SW6010D	2.4	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	05	SW8260D	2.11		0.20	1.00	1	ug/L
1,2-Dichlorobenzene	05	SW8260D	0.33	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	05	SW8260D	11.5		0.20	1.00	1	ug/L
Benzene	05	SW8260D	2.27		0.20	1.00	1	ug/L
Chlorobenzene	05	SW8260D	5.35		0.10	1.00	1	ug/L
Chloroethane	05	SW8260D	0.98	J	0.20	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260D	3.56		0.20	1.00	1	ug/L
m+p-Xylenes	05	SW8260D	1.26	J	0.20	2.00	1	ug/L
Naphthalene	05	SW8260D	0.72	J	0.20	1.00	1	ug/L
o-Xylene	05	SW8260D	2.28		0.10	1.00	1	ug/L
Tetrachloroethylene (PCE)	05	SW8260D	0.20	J	0.20	1.00	1	ug/L
Trichloroethylene	05	SW8260D	0.60	J	0.20	1.00	1	ug/L
Vinyl chloride	05	SW8260D	0.55		0.20	0.50	1	ug/L
Xylenes, Total	05	SW8260D	3.54		0.30	3.00	1	ug/L
bis (2-Ethylhexyl) phthalate	05	SW8270E	1.20	J	1.09	2.72	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	17J0136-01	Ground Water	10/04/2017 09:35	10/04/2017 14:55
MW-3A	17J0136-02	Ground Water	10/03/2017 07:30	10/04/2017 14:55
MW-1B	17J0136-03	Ground Water	10/03/2017 08:50	10/04/2017 14:55
MW-2B	17J0136-04	Ground Water	10/03/2017 07:45	10/04/2017 14:55
MW-4	17J0136-05	Ground Water	10/03/2017 10:55	10/04/2017 14:55

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	01	7440-38-2	SW6020B	10/05/2017 16:00	10/06/2017 21:43	BLOD		1.0	5.0	1	ug/L	BG
Barium	01	7440-39-3	SW6010D	10/05/2017 16:00	10/06/2017 13:56	9.9	J	2.0	10.0	1	ug/L	CWO
Beryllium	01	7440-41-7	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	01	7440-43-9	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	01	7440-48-4	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	4.0	1	ug/L	CWO
Chromium	01	7440-47-3	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		4.0	10.0	1	ug/L	CWO
Copper	01	7440-50-8	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	01	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:12	BLOD		0.20	0.20	1	ug/L	RCV
Nickel	01	7440-02-0	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	10.0	1	ug/L	CWO
Lead	01	7439-92-1	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	01	7440-36-0	SW6020B	10/05/2017 16:00	10/06/2017 21:43	BLOD		1.00	5.00	1	ug/L	BG
Selenium	01	7782-49-2	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		15.0	50.0	1	ug/L	CWO
Tin	01	7440-31-5	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	01	7440-28-0	SW6020B	10/05/2017 16:00	10/06/2017 21:43	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	01	7440-62-2	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	01	7440-66-6	SW6010D	10/05/2017 16:00	10/06/2017 13:56	BLOD		10.0	10.0	1	ug/L	CWO
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,2,3-Trichloropropane	01	96-18-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.10	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Dibromomethane	01	74-95-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		18.0	40.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	01	91-20-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.20	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	10/06/2017 11:47	10/06/2017 11:47	BLOD		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	01	99.7 %	70-120	10/06/2017 11:47	10/06/2017 11:47							
Surr: 4-Bromofluorobenzene (Surr)	01	96.5 %	75-120	10/06/2017 11:47	10/06/2017 11:47							
Surr: Dibromofluoromethane (Surr)	01	89.5 %	80-119	10/06/2017 11:47	10/06/2017 11:47							
Surr: Toluene-d8 (Surr)	01	98.1 %	85-120	10/06/2017 11:47	10/06/2017 11:47							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	92-67-1	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD		2.22	11.1	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD	C	1.11	2.78	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD		1.11	11.1	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD		1.11	11.1	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD		2.22	11.1	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270E	10/09/2017 09:39	10/09/2017 20:25	BLOD		1.11	11.1	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	01	54.4 %	20-86	10/09/2017 09:39	10/09/2017 20:25							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	01	51.7 %	23-87	10/09/2017 09:39	10/09/2017 20:25							
<i>Surr: 2-Fluorophenol (Surr)</i>	01	36.6 %	10-52	10/09/2017 09:39	10/09/2017 20:25							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	01	51.1 %	10-98.5	10/09/2017 09:39	10/09/2017 20:25							
<i>Surr: Phenol-d5 (Surr)</i>	01	22.5 %	5-33	10/09/2017 09:39	10/09/2017 20:25							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	01	45.3 %	27-133	10/09/2017 09:39	10/09/2017 20:25							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	01	1031-07-8	SW8081B	10/06/2017 17:30	10/06/2017 17:30	BLOD		0.002	0.056	1	ug/L	LBH
Surr: TCMX	01	70.0 %	18-112	10/06/2017 17:30	10/06/2017 17:30							
Surr: DCB	01	55.0 %	27-131	10/06/2017 17:30	10/06/2017 17:30							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	10/05/2017 14:29	10/10/2017 14:56	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>01</i>	<i>85.0 %</i>	<i>60-112</i>	<i>10/05/2017 14:29</i>	<i>10/10/2017 14:56</i>							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	10/06/2017 11:26	10/07/2017 07:12	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	01	96-18-4	SW8011	10/06/2017 11:26	10/07/2017 07:12	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	10/06/2017 11:26	10/07/2017 07:12	BLOD		0.003	0.010	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-20

Laboratory Sample ID: 17J0136-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	01	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010D	10/05/2017 16:00	10/06/2017 13:58	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	02	7440-38-2	SW6020B	10/05/2017 16:00	10/06/2017 21:47	1.6	J	1.0	5.0	1	ug/L	BG
Barium	02	7440-39-3	SW6010D	10/05/2017 16:00	10/06/2017 13:58	290		2.0	10.0	1	ug/L	CWO
Beryllium	02	7440-41-7	SW6010D	10/05/2017 16:00	10/06/2017 13:58	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	02	7440-43-9	SW6010D	10/05/2017 16:00	10/06/2017 13:58	2.0	J	2.0	4.0	1	ug/L	CWO
Cobalt	02	7440-48-4	SW6010D	10/05/2017 16:00	10/06/2017 13:58	130		2.0	4.0	1	ug/L	CWO
Chromium	02	7440-47-3	SW6010D	10/05/2017 16:00	10/06/2017 13:58	14.5		4.0	10.0	1	ug/L	CWO
Copper	02	7440-50-8	SW6010D	10/05/2017 16:00	10/06/2017 13:58	3.8	J	3.0	10.0	1	ug/L	CWO
Mercury	02	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:14	BLOD		0.20	0.20	1	ug/L	RCV
Nickel	02	7440-02-0	SW6010D	10/05/2017 16:00	10/06/2017 13:58	11.6		2.0	10.0	1	ug/L	CWO
Lead	02	7439-92-1	SW6010D	10/05/2017 16:00	10/06/2017 13:58	0.0071	J	0.0060	0.0100	1	mg/L	CWO
Antimony	02	7440-36-0	SW6020B	10/05/2017 16:00	10/06/2017 21:47	BLOD		1.00	5.00	1	ug/L	BG
Selenium	02	7782-49-2	SW6010D	10/05/2017 16:00	10/06/2017 13:58	24.4	J	15.0	50.0	1	ug/L	CWO
Tin	02	7440-31-5	SW6010D	10/05/2017 16:00	10/06/2017 13:58	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	02	7440-28-0	SW6020B	10/05/2017 16:00	10/06/2017 21:47	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	02	7440-62-2	SW6010D	10/05/2017 16:00	10/06/2017 13:58	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	02	7440-66-6	SW6010D	10/05/2017 16:00	10/06/2017 13:58	15.0		10.0	10.0	1	ug/L	CWO

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	0.46	J	0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260D	10/06/2017 12:10	10/06/2017 12:10	3.58		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	11.8		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW8260D	10/06/2017 12:10	10/06/2017 12:10	0.36	J	0.20	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW8260D	10/06/2017 12:10	10/06/2017 12:10	1.02		0.10	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-00-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260D	10/06/2017 12:10	10/06/2017 12:10	2.67		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	02	78-83-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		18.0	40.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	02	91-20-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260D	10/06/2017 12:10	10/06/2017 12:10	0.22	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	02	108-05-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260D	10/06/2017 12:10	10/06/2017 12:10	0.30	J	0.20	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260D	10/06/2017 12:10	10/06/2017 12:10	BLOD		0.30	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	02	95.6 %	70-120	10/06/2017 12:10	10/06/2017 12:10							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	02	95.5 %	75-120	10/06/2017 12:10	10/06/2017 12:10							
<i>Surr: Dibromofluoromethane (Surr)</i>	02	89.0 %	80-119	10/06/2017 12:10	10/06/2017 12:10							
<i>Surr: Toluene-d8 (Surr)</i>	02	97.9 %	85-120	10/06/2017 12:10	10/06/2017 12:10							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	02	92-67-1	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD		2.17	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD	C	1.09	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD		1.09	10.9	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD		2.17	10.9	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270E	10/09/2017 09:39	10/09/2017 20:56	BLOD		1.09	10.9	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	02	68.8 %	20-86	10/09/2017 09:39	10/09/2017 20:56							
Surr: 2-Fluorobiphenyl (Surr)	02	51.7 %	23-87	10/09/2017 09:39	10/09/2017 20:56							
Surr: 2-Fluorophenol (Surr)	02	23.1 %	10-52	10/09/2017 09:39	10/09/2017 20:56							
Surr: Nitrobenzene-d5 (Surr)	02	48.2 %	10-98.5	10/09/2017 09:39	10/09/2017 20:56							
Surr: Phenol-d5 (Surr)	02	19.2 %	5-33	10/09/2017 09:39	10/09/2017 20:56							
Surr: p-Terphenyl-d14 (Surr)	02	44.8 %	27-133	10/09/2017 09:39	10/09/2017 20:56							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	10/06/2017 11:26	10/07/2017 07:32	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	02	96-18-4	SW8011	10/06/2017 11:26	10/07/2017 07:32	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	10/06/2017 11:26	10/07/2017 07:32	BLOD		0.003	0.010	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-3A

Laboratory Sample ID: 17J0136-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	02	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-1B

Laboratory Sample ID: 17J0136-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	03	7440-22-4	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	03	7440-38-2	SW6020B	10/05/2017 16:00	10/06/2017 21:51	BLOD		1.0	5.0	1	ug/L	BG
Barium	03	7440-39-3	SW6010D	10/05/2017 16:00	10/06/2017 14:00	171		2.0	10.0	1	ug/L	CWO
Beryllium	03	7440-41-7	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	03	7440-43-9	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	03	7440-48-4	SW6010D	10/05/2017 16:00	10/06/2017 14:00	31.1		2.0	4.0	1	ug/L	CWO
Chromium	03	7440-47-3	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		4.0	10.0	1	ug/L	CWO
Copper	03	7440-50-8	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	03	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:15	0.24		0.20	0.20	1	ug/L	RCV
Nickel	03	7440-02-0	SW6010D	10/05/2017 16:00	10/06/2017 14:00	8.0	J	2.0	10.0	1	ug/L	CWO
Lead	03	7439-92-1	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	03	7440-36-0	SW6020B	10/05/2017 16:00	10/06/2017 21:51	BLOD		1.00	5.00	1	ug/L	BG
Selenium	03	7782-49-2	SW6010D	10/05/2017 16:00	10/06/2017 14:00	30.2	J	15.0	50.0	1	ug/L	CWO
Tin	03	7440-31-5	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	03	7440-28-0	SW6020B	10/05/2017 16:00	10/06/2017 21:51	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	03	7440-62-2	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	03	7440-66-6	SW6010D	10/05/2017 16:00	10/06/2017 14:00	BLOD		10.0	10.0	1	ug/L	CWO

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-1B

Laboratory Sample ID: 17J0136-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	11.9		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	0.27	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260D	10/06/2017 12:34	10/06/2017 12:34	0.71	J	0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	0.78	J	0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260D	10/06/2017 12:34	10/06/2017 12:34	4.94		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	03	71-43-2	SW8260D	10/06/2017 12:34	10/06/2017 12:34	1.48		0.20	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW8260D	10/06/2017 12:34	10/06/2017 12:34	2.20		0.10	1.00	1	ug/L	KCS

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-1B

Laboratory Sample ID: 17J0136-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	03	75-00-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	2.43		0.20	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260D	10/06/2017 12:34	10/06/2017 12:34	15.9		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	03	78-83-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		18.0	40.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	03	91-20-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	03	100-42-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	0.22	J	0.20	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260D	10/06/2017 12:34	10/06/2017 12:34	0.31	J	0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260D	10/06/2017 12:34	10/06/2017 12:34	1.75		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.20	1.00	1	ug/L	KCS

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Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-1B

Laboratory Sample ID: 17J0136-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	03	108-05-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	03	75-01-4	SW8260D	10/06/2017 12:34	10/06/2017 12:34	3.50		0.20	0.50	1	ug/L	KCS
Xylenes, Total	03	1330-20-7	SW8260D	10/06/2017 12:34	10/06/2017 12:34	BLOD		0.30	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	93.6 %	70-120	10/06/2017 12:34	10/06/2017 12:34							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	95.3 %	75-120	10/06/2017 12:34	10/06/2017 12:34							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	90.0 %	80-119	10/06/2017 12:34	10/06/2017 12:34							
<i>Surr: Toluene-d8 (Surr)</i>	03	98.5 %	85-120	10/06/2017 12:34	10/06/2017 12:34							

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Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	03	92-67-1	SW8270E	10/09/2017 09:39	10/09/2017 17:05	BLOD		2.13	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270E	10/09/2017 09:39	10/09/2017 17:05	1.18	J	1.06	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	03	53-70-3	SW8270E	10/09/2017 09:39	10/09/2017 17:05	BLOD		1.06	10.6	1	ug/L	SKS
Diethyl phthalate	03	84-66-2	SW8270E	10/09/2017 09:39	10/09/2017 17:05	BLOD		1.06	10.6	1	ug/L	SKS
Di-n-butyl phthalate	03	84-74-2	SW8270E	10/09/2017 09:39	10/09/2017 17:05	BLOD		2.13	10.6	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270E	10/09/2017 09:39	10/09/2017 17:05	BLOD		1.06	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	03	40.3 %	20-86	10/09/2017 09:39	10/09/2017 17:05							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	03	44.2 %	23-87	10/09/2017 09:39	10/09/2017 17:05							
<i>Surr: 2-Fluorophenol (Surr)</i>	03	30.6 %	10-52	10/09/2017 09:39	10/09/2017 17:05							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	03	63.0 %	10-98.5	10/09/2017 09:39	10/09/2017 17:05							
<i>Surr: Phenol-d5 (Surr)</i>	03	22.9 %	5-33	10/09/2017 09:39	10/09/2017 17:05							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	03	53.1 %	27-133	10/09/2017 09:39	10/09/2017 17:05							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	03	1031-07-8	SW8081B	10/06/2017 17:49	10/06/2017 17:49	BLOD		0.002	0.056	1	ug/L	LBH
Surr: TCMX	03	95.0 %	18-112	10/06/2017 17:49	10/06/2017 17:49							
Surr: DCB	03	210 %	27-131	10/06/2017 17:49	10/06/2017 17:49							S

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	03	93-76-5	SW8151A	10/05/2017 14:29	10/10/2017 15:18	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA (Surr)	03	200 %	60-112	10/05/2017 14:29	10/10/2017 15:18							S

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	10/06/2017 11:26	10/07/2017 07:51	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	03	96-18-4	SW8011	10/06/2017 11:26	10/07/2017 07:51	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	10/06/2017 11:26	10/07/2017 07:51	BLOD		0.003	0.010	1	ug/L	LBH

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Submitted To: Jake White

Client Sample ID: **MW-1B**

Laboratory Sample ID: **17J0136-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	03	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP

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Client Sample ID: MW-2B

Laboratory Sample ID: 17J0136-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010D	10/05/2017 16:00	10/06/2017 14:12	2.3	J	2.0	10.0	1	ug/L	CWO
Arsenic	04	7440-38-2	SW6020B	10/05/2017 16:00	10/06/2017 22:20	BLOD		1.0	5.0	1	ug/L	BG
Barium	04	7440-39-3	SW6010D	10/05/2017 16:00	10/06/2017 14:12	263		2.0	10.0	1	ug/L	CWO
Beryllium	04	7440-41-7	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	04	7440-43-9	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	04	7440-48-4	SW6010D	10/05/2017 16:00	10/06/2017 14:12	18.5		2.0	4.0	1	ug/L	CWO
Chromium	04	7440-47-3	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		4.0	10.0	1	ug/L	CWO
Copper	04	7440-50-8	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	04	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:28	BLOD		0.20	0.20	1	ug/L	RCV
Nickel	04	7440-02-0	SW6010D	10/05/2017 16:00	10/06/2017 14:12	80.9		2.0	10.0	1	ug/L	CWO
Lead	04	7439-92-1	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	04	7440-36-0	SW6020B	10/05/2017 16:00	10/06/2017 22:20	BLOD		1.00	5.00	1	ug/L	BG
Selenium	04	7782-49-2	SW6010D	10/05/2017 16:00	10/06/2017 14:12	47.8	J	15.0	50.0	1	ug/L	CWO
Tin	04	7440-31-5	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	04	7440-28-0	SW6020B	10/05/2017 16:00	10/06/2017 22:20	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	04	7440-62-2	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		2.0	10.0	1	ug/L	CWO
Zinc	04	7440-66-6	SW6010D	10/05/2017 16:00	10/06/2017 14:12	BLOD		10.0	10.0	1	ug/L	CWO

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	4.74		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	1.13		0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	0.32	J	0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW8260D	10/06/2017 12:58	10/06/2017 12:58	13.7		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	SW8260D	10/06/2017 12:58	10/06/2017 12:58	1.34		0.20	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW8260D	10/06/2017 12:58	10/06/2017 12:58	11.9		0.10	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-2B

Laboratory Sample ID: 17J0136-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	04	156-59-2	SW8260D	10/06/2017 12:58	10/06/2017 12:58	5.64		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	04	78-83-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		18.0	40.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.10	1.00	1	ug/L	KCS
Styrene	04	100-42-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	0.38	J	0.20	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260D	10/06/2017 12:58	10/06/2017 12:58	1.98		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-2B

Laboratory Sample ID: 17J0136-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	04	108-05-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW8260D	10/06/2017 12:58	10/06/2017 12:58	0.78		0.20	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260D	10/06/2017 12:58	10/06/2017 12:58	BLOD		0.30	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	98.2 %	70-120	10/06/2017 12:58	10/06/2017 12:58							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	96.7 %	75-120	10/06/2017 12:58	10/06/2017 12:58							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	92.2 %	80-119	10/06/2017 12:58	10/06/2017 12:58							
<i>Surr: Toluene-d8 (Surr)</i>	04	97.4 %	85-120	10/06/2017 12:58	10/06/2017 12:58							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	04	92-67-1	SW8270E	10/09/2017 09:39	10/09/2017 18:39	BLOD		2.20	11.0	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270E	10/09/2017 09:39	10/09/2017 18:39	2.81		1.10	2.75	1	ug/L	SKS
Dibenz (a,h) anthracene	04	53-70-3	SW8270E	10/09/2017 09:39	10/09/2017 18:39	BLOD		1.10	11.0	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270E	10/09/2017 09:39	10/09/2017 18:39	3.37	J	1.10	11.0	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270E	10/09/2017 09:39	10/09/2017 18:39	BLOD		2.20	11.0	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270E	10/09/2017 09:39	10/09/2017 18:39	BLOD		1.10	11.0	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	04	50.6 %	20-86	10/09/2017 09:39	10/09/2017 18:39							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	04	50.6 %	23-87	10/09/2017 09:39	10/09/2017 18:39							
<i>Surr: 2-Fluorophenol (Surr)</i>	04	26.2 %	10-52	10/09/2017 09:39	10/09/2017 18:39							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	04	66.7 %	10-98.5	10/09/2017 09:39	10/09/2017 18:39							
<i>Surr: Phenol-d5 (Surr)</i>	04	24.5 %	5-33	10/09/2017 09:39	10/09/2017 18:39							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	04	62.2 %	27-133	10/09/2017 09:39	10/09/2017 18:39							

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Client Sample ID: MW-2B

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	04	1031-07-8	SW8081B	10/06/2017 18:45	10/06/2017 18:45	BLOD		0.002	0.054	1	ug/L	LBH
Surr: TCMX	04	115 %	18-112	10/06/2017 18:45	10/06/2017 18:45							S
Surr: DCB	04	70.0 %	27-131	10/06/2017 18:45	10/06/2017 18:45							

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	10/05/2017 14:29	10/10/2017 16:24	BLOD		0.100	0.500	1	ug/L	CVH
Surr: DCAA (Surr)	04	225 %	60-112	10/05/2017 14:29	10/10/2017 16:24							S

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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	10/06/2017 11:26	10/07/2017 08:50	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	04	96-18-4	SW8011	10/06/2017 11:26	10/07/2017 08:50	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	10/06/2017 11:26	10/07/2017 08:50	BLOD		0.003	0.010	1	ug/L	LBH

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Client Sample ID: MW-2B

Laboratory Sample ID: 17J0136-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	04	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP

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Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		2.0	10.0	1	ug/L	CWO
Arsenic	05	7440-38-2	SW6020B	10/05/2017 16:00	10/06/2017 22:24	BLOD		1.0	5.0	1	ug/L	BG
Barium	05	7440-39-3	SW6010D	10/05/2017 16:00	10/06/2017 14:14	46.9		2.0	10.0	1	ug/L	CWO
Beryllium	05	7440-41-7	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		2.0	4.0	1	ug/L	CWO
Cadmium	05	7440-43-9	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		2.0	4.0	1	ug/L	CWO
Cobalt	05	7440-48-4	SW6010D	10/05/2017 16:00	10/06/2017 14:14	11.8		2.0	4.0	1	ug/L	CWO
Chromium	05	7440-47-3	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		4.0	10.0	1	ug/L	CWO
Copper	05	7440-50-8	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		3.0	10.0	1	ug/L	CWO
Mercury	05	7439-97-6	SW7470A	10/09/2017 08:30	10/10/2017 12:31	BLOD		0.20	0.20	1	ug/L	RCV
Nickel	05	7440-02-0	SW6010D	10/05/2017 16:00	10/06/2017 14:14	8.6	J	2.0	10.0	1	ug/L	CWO
Lead	05	7439-92-1	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		0.0060	0.0100	1	mg/L	CWO
Antimony	05	7440-36-0	SW6020B	10/05/2017 16:00	10/06/2017 22:24	BLOD		1.00	5.00	1	ug/L	BG
Selenium	05	7782-49-2	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		15.0	50.0	1	ug/L	CWO
Tin	05	7440-31-5	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		20.0	20.0	1	ug/L	CWO
Thallium	05	7440-28-0	SW6020B	10/05/2017 16:00	10/06/2017 22:24	BLOD		1.00	2.00	1	ug/L	BG
Vanadium	05	7440-62-2	SW6010D	10/05/2017 16:00	10/06/2017 14:14	2.4	J	2.0	10.0	1	ug/L	CWO
Zinc	05	7440-66-6	SW6010D	10/05/2017 16:00	10/06/2017 14:14	BLOD		10.0	10.0	1	ug/L	CWO

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Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	2.11		0.20	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.33	J	0.20	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260D	10/06/2017 13:21	10/06/2017 13:21	11.5		0.20	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		4.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		4.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		4.00	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW8260D	10/06/2017 13:21	10/06/2017 13:21	2.27		0.20	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260D	10/06/2017 13:21	10/06/2017 13:21	5.35		0.10	1.00	1	ug/L	KCS

Certificate of Analysis

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Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-00-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.98	J	0.20	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	10/06/2017 13:21	10/06/2017 13:21	3.56		0.20	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.10	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	78-83-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		18.0	40.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260D	10/06/2017 13:21	10/06/2017 13:21	1.26	J	0.20	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	05	91-20-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.72	J	0.20	1.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	2.28		0.10	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.10	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.20	J	0.20	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.60	J	0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	BLOD		2.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	05	75-01-4	SW8260D	10/06/2017 13:21	10/06/2017 13:21	0.55		0.20	0.50	1	ug/L	KCS
Xylenes, Total	05	1330-20-7	SW8260D	10/06/2017 13:21	10/06/2017 13:21	3.54		0.30	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	05	92.8 %	70-120	10/06/2017 13:21	10/06/2017 13:21							
Surr: 4-Bromofluorobenzene (Surr)	05	97.8 %	75-120	10/06/2017 13:21	10/06/2017 13:21							
Surr: Dibromofluoromethane (Surr)	05	90.3 %	80-119	10/06/2017 13:21	10/06/2017 13:21							
Surr: Toluene-d8 (Surr)	05	98.6 %	85-120	10/06/2017 13:21	10/06/2017 13:21							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	05	92-67-1	SW8270E	10/09/2017 09:39	10/09/2017 19:10	BLOD		2.17	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270E	10/09/2017 09:39	10/09/2017 19:10	1.20	J	1.09	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	05	53-70-3	SW8270E	10/09/2017 09:39	10/09/2017 19:10	BLOD		1.09	10.9	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SW8270E	10/09/2017 09:39	10/09/2017 19:10	BLOD		1.09	10.9	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270E	10/09/2017 09:39	10/09/2017 19:10	BLOD		2.17	10.9	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270E	10/09/2017 09:39	10/09/2017 19:10	BLOD		1.09	10.9	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	05	46.0 %	20-86	10/09/2017 09:39	10/09/2017 19:10							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	05	63.0 %	23-87	10/09/2017 09:39	10/09/2017 19:10							
<i>Surr: 2-Fluorophenol (Surr)</i>	05	35.6 %	10-52	10/09/2017 09:39	10/09/2017 19:10							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	05	84.6 %	10-98.5	10/09/2017 09:39	10/09/2017 19:10							
<i>Surr: Phenol-d5 (Surr)</i>	05	31.3 %	5-33	10/09/2017 09:39	10/09/2017 19:10							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	05	64.2 %	27-133	10/09/2017 09:39	10/09/2017 19:10							

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Submitted To: Jake White

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	05	1031-07-8	SW8081B	10/06/2017 19:04	10/06/2017 19:04	BLOD		0.002	0.054	1	ug/L	LBH
Surr: TCMX	05	70.0 %	18-112	10/06/2017 19:04	10/06/2017 19:04							
Surr: DCB	05	75.0 %	27-131	10/06/2017 19:04	10/06/2017 19:04							

Certificate of Analysis

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Submitted To: Jake White

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	10/05/2017 14:29	10/10/2017 16:47	BLOD		0.100	0.500	1	ug/L	CVH
<i>Surr: DCAA (Surr)</i>	<i>05</i>	<i>95.0 %</i>	<i>60-112</i>	<i>10/05/2017 14:29</i>	<i>10/10/2017 16:47</i>							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	10/06/2017 11:26	10/07/2017 09:09	BLOD		0.003	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	05	96-18-4	SW8011	10/06/2017 11:26	10/07/2017 09:09	BLOD		0.003	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	10/06/2017 11:26	10/07/2017 09:09	BLOD		0.003	0.010	1	ug/L	LBH

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Client Sample ID: MW-4

Laboratory Sample ID: 17J0136-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	05	18496-25-8	SW9215	10/09/2017 16:18	10/09/2017 16:18	BLOD		0.50	1.00	1	mg/L	BBP

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0154 - EPA200.2/R2.8

Blank (BAJ0154-BLK1)

Prepared: 10/05/2017 Analyzed: 10/06/2017

Barium	ND	10.0	ug/L							
Beryllium	ND	4.0	ug/L							
Cadmium	ND	4.0	ug/L							
Chromium	ND	10.0	ug/L							
Cobalt	ND	4.0	ug/L							
Copper	ND	10.0	ug/L							
Lead	ND	0.0100	mg/L							
Nickel	ND	10.0	ug/L							
Selenium	ND	50.0	ug/L							
Silver	ND	10.0	ug/L							
Tin	ND	20.0	ug/L							
Vanadium	ND	10.0	ug/L							
Zinc	ND	10.0	ug/L							

LCS (BAJ0154-BS1)

Prepared: 10/05/2017 Analyzed: 10/06/2017

Barium	490	10.0	ug/L	500		98.0	80-120			
Beryllium	499	4.0	ug/L	500		99.8	80-120			
Cadmium	502	4.0	ug/L	500		100	80-120			
Chromium	494	10.0	ug/L	500		98.9	80-120			
Cobalt	499	4.0	ug/L	500		99.8	80-120			
Copper	501	10.0	ug/L	500		100	80-120			
Lead	0.503	0.0100	mg/L	0.500		101	80-120			
Nickel	500.3	10.0	ug/L	500		100	80-120			
Selenium	513	50.0	ug/L	500		103	80-120			
Silver	101	10.0	ug/L	100		101	80-120			

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Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0154 - EPA200.2/R2.8										
LCS (BAJ0154-BS1)										
				Prepared: 10/05/2017 Analyzed: 10/06/2017						
Tin	98.1	20.0	ug/L	100		98.1	80-120			
Vanadium	492	10.0	ug/L	500		98.3	80-120			
Zinc	496	10.0	ug/L	500		99.2	80-120			
LCS Dup (BAJ0154-BSD1)										
				Prepared: 10/05/2017 Analyzed: 10/06/2017						
Barium	501	10.0	ug/L	500		100	80-120	2.23	20	
Beryllium	507	4.0	ug/L	500		101	80-120	1.61	20	
Cadmium	510	4.0	ug/L	500		102	80-120	1.68	20	
Chromium	500	10.0	ug/L	500		100	80-120	1.09	20	
Cobalt	505	4.0	ug/L	500		101	80-120	1.11	20	
Copper	506	10.0	ug/L	500		101	80-120	0.981	20	
Lead	0.508	0.0100	mg/L	0.500		102	80-120	1.02	20	
Nickel	507.1	10.0	ug/L	500		101	80-120	1.34	20	
Selenium	513	50.0	ug/L	500		103	80-120	0.116	20	
Silver	104	10.0	ug/L	100		104	80-120	3.08	20	E
Tin	100	20.0	ug/L	100		100	80-120	2.01	20	
Vanadium	499	10.0	ug/L	500		99.8	80-120	1.43	20	
Zinc	502	10.0	ug/L	500		100	80-120	1.16	20	
Matrix Spike (BAJ0154-MS1)										
		Source: 17J0136-03		Prepared: 10/05/2017 Analyzed: 10/06/2017						
Barium	658	10.0	ug/L	500	171	97.5	75-125			
Beryllium	517	4.0	ug/L	500	BLOD	103	75-125			
Cadmium	512	4.0	ug/L	500	BLOD	102	75-125			
Chromium	510	10.0	ug/L	500	BLOD	102	75-125			
Cobalt	539	4.0	ug/L	500	31.1	102	75-125			
Copper	517	10.0	ug/L	500	BLOD	103	75-125			

Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0154 - EPA200.2/R2.8										
Matrix Spike (BAJ0154-MS1)										
			Source: 17J0136-03		Prepared: 10/05/2017 Analyzed: 10/06/2017					
Lead	0.510	0.0100	mg/L	0.500	BLOD	102	75-125			
Nickel	515.0	10.0	ug/L	500	8.0	101	75-125			
Selenium	535	50.0	ug/L	500	30.2	101	75-125			
Silver	104	10.0	ug/L	100	BLOD	104	75-125			E
Tin	96.7	20.0	ug/L	100	BLOD	96.7	75-125			
Vanadium	506	10.0	ug/L	500	BLOD	101	75-125			
Zinc	513	10.0	ug/L	500	BLOD	103	75-125			
Matrix Spike (BAJ0154-MS2)										
			Source: 17J0136-05		Prepared: 10/05/2017 Analyzed: 10/06/2017					
Barium	553	10.0	ug/L	500	46.9	101	75-125			
Beryllium	524	4.0	ug/L	500	BLOD	105	75-125			
Cadmium	519	4.0	ug/L	500	BLOD	104	75-125			
Chromium	515	10.0	ug/L	500	BLOD	103	75-125			
Cobalt	526	4.0	ug/L	500	11.8	103	75-125			
Copper	522	10.0	ug/L	500	BLOD	104	75-125			
Lead	0.519	0.0100	mg/L	0.500	BLOD	104	75-125			
Nickel	521.2	10.0	ug/L	500	8.6	103	75-125			
Selenium	529	50.0	ug/L	500	BLOD	106	75-125			
Silver	106	10.0	ug/L	100	BLOD	106	75-125			E
Tin	95.1	20.0	ug/L	100	BLOD	95.1	75-125			
Vanadium	515	10.0	ug/L	500	2.4	103	75-125			
Zinc	512	10.0	ug/L	500	BLOD	102	75-125			
Matrix Spike Dup (BAJ0154-MSD1)										
			Source: 17J0136-03		Prepared: 10/05/2017 Analyzed: 10/06/2017					
Barium	706	10.0	ug/L	500	171	107	75-125	7.04	20	
Beryllium	542	4.0	ug/L	500	BLOD	108	75-125	4.57	20	

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0154 - EPA200.2/R2.8

Matrix Spike Dup (BAJ0154-MSD1)		Source: 17J0136-03			Prepared: 10/05/2017 Analyzed: 10/06/2017					
Cadmium	537	4.0	ug/L	500	BLOD	107	75-125	4.72	20	
Chromium	538	10.0	ug/L	500	BLOD	108	75-125	5.33	20	
Cobalt	556	4.0	ug/L	500	31.1	105	75-125	3.06	20	
Copper	541	10.0	ug/L	500	BLOD	108	75-125	4.53	20	
Lead	0.528	0.0100	mg/L	0.500	BLOD	106	75-125	3.46	20	
Nickel	530.8	10.0	ug/L	500	8.0	105	75-125	3.03	20	
Selenium	568	50.0	ug/L	500	30.2	107	75-125	5.96	20	
Silver	110	10.0	ug/L	100	BLOD	110	75-125	5.89	20	E
Tin	101	20.0	ug/L	100	BLOD	101	75-125	4.49	20	
Vanadium	529	10.0	ug/L	500	BLOD	106	75-125	4.46	20	
Zinc	525	10.0	ug/L	500	BLOD	105	75-125	2.34	20	

Matrix Spike Dup (BAJ0154-MSD2)		Source: 17J0136-05			Prepared: 10/05/2017 Analyzed: 10/06/2017					
Barium	560	10.0	ug/L	500	46.9	103	75-125	1.25	20	
Beryllium	528	4.0	ug/L	500	BLOD	106	75-125	0.661	20	
Cadmium	523	4.0	ug/L	500	BLOD	105	75-125	0.863	20	
Chromium	523	10.0	ug/L	500	BLOD	105	75-125	1.67	20	
Cobalt	536	4.0	ug/L	500	11.8	105	75-125	1.95	20	
Copper	526	10.0	ug/L	500	BLOD	105	75-125	0.750	20	
Lead	0.529	0.0100	mg/L	0.500	BLOD	106	75-125	1.98	20	
Nickel	532.5	10.0	ug/L	500	8.6	105	75-125	2.15	20	
Selenium	538	50.0	ug/L	500	BLOD	108	75-125	1.73	20	
Silver	105	10.0	ug/L	100	BLOD	105	75-125	0.872	20	E
Tin	97.8	20.0	ug/L	100	BLOD	97.8	75-125	2.79	20	
Vanadium	519	10.0	ug/L	500	2.4	103	75-125	0.847	20	

Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0154 - EPA200.2/R2.8										
Matrix Spike Dup (BAJ0154-MSD2) Source: 17J0136-05 Prepared: 10/05/2017 Analyzed: 10/06/2017										
Zinc	523	10.0	ug/L	500	BLOD	105	75-125	2.17	20	
Batch BAJ0157 - EPA200.8 R5.4										
Blank (BAJ0157-BLK1) Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	ND	5.00	ug/L							
Arsenic	ND	5.0	ug/L							
Thallium	ND	2.00	ug/L							
LCS (BAJ0157-BS1) Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	54.7	5.00	ug/L	50.0		109	80-120			
Arsenic	52	5.0	ug/L	50.0		103	80-120			
Thallium	48.9	2.00	ug/L	50.0		97.7	80-120			
LCS Dup (BAJ0157-BSD1) Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	53.3	5.00	ug/L	50.0		107	80-120	2.71	20	
Arsenic	51	5.0	ug/L	50.0		102	80-120	1.64	20	
Thallium	48.6	2.00	ug/L	50.0		97.1	80-120	0.601	20	
Matrix Spike (BAJ0157-MS1) Source: 17J0136-03 Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	56.2	5.00	ug/L	50.0	BLOD	112	75-125			
Arsenic	53	5.0	ug/L	50.0	BLOD	107	75-125			
Thallium	46.2	2.00	ug/L	50.0	BLOD	92.4	75-125			
Matrix Spike (BAJ0157-MS2) Source: 17J0136-05 Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	54.8	5.00	ug/L	50.0	BLOD	110	75-125			
Arsenic	53	5.0	ug/L	50.0	BLOD	106	75-125			
Thallium	47.4	2.00	ug/L	50.0	BLOD	94.8	75-125			

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0157 - EPA200.8 R5.4										
Matrix Spike Dup (BAJ0157-MSD1) Source: 17J0136-03 Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	51.7	5.00	ug/L	50.0	BLOD	103	75-125	8.34	20	
Arsenic	53	5.0	ug/L	50.0	BLOD	106	75-125	0.849	20	
Thallium	47.2	2.00	ug/L	50.0	BLOD	94.4	75-125	2.09	20	
Matrix Spike Dup (BAJ0157-MSD2) Source: 17J0136-05 Prepared: 10/05/2017 Analyzed: 10/06/2017										
Antimony	53.0	5.00	ug/L	50.0	BLOD	106	75-125	3.42	20	
Arsenic	52	5.0	ug/L	50.0	BLOD	104	75-125	1.21	20	
Thallium	48.5	2.00	ug/L	50.0	BLOD	97.1	75-125	2.37	20	
Batch BAJ0219 - SW7470A										
Blank (BAJ0219-BLK1) Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	ND	0.20	ug/L							
LCS (BAJ0219-BS1) Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	2.46	0.20	ug/L	2.50		98.6	80-120			
LCS Dup (BAJ0219-BSD1) Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	2.57	0.20	ug/L	2.50		103	80-120	4.04	20	
Matrix Spike (BAJ0219-MS1) Source: 17J0112-08 Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	2.69	0.20	ug/L	2.50	BLOD	108	80-120			
Matrix Spike (BAJ0219-MS2) Source: 17J0136-03 Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	2.14	0.20	ug/L	2.50	0.24	76.1	80-120			M
Matrix Spike Dup (BAJ0219-MSD1) Source: 17J0112-08 Prepared: 10/09/2017 Analyzed: 10/10/2017										
Mercury	2.50	0.20	ug/L	2.50	BLOD	99.8	80-120	7.66	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0219 - SW7470A

Matrix Spike Dup (BAJ0219-MSD2)	Source: 17J0136-03			Prepared: 10/09/2017 Analyzed: 10/10/2017						
Mercury	2.13	0.20	ug/L	2.50	0.24	75.7	80-120	0.566	20	M

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

Blank (BAJ0227-BLK1)

Prepared & Analyzed: 10/06/2017

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L
1,1,1-Trichloroethane	ND	1.00	ug/L
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L
1,1,2-Trichloroethane	ND	1.00	ug/L
1,1-Dichloroethane	ND	1.00	ug/L
1,1-Dichloroethylene	ND	1.00	ug/L
1,2,3-Trichloropropane	ND	1.00	ug/L
1,2-Dichlorobenzene	ND	1.00	ug/L
1,2-Dichloroethane	ND	1.00	ug/L
1,2-Dichloropropane	ND	1.00	ug/L
1,4-Dichlorobenzene	ND	1.00	ug/L
2-Butanone (MEK)	ND	5.00	ug/L
2-Hexanone (MBK)	ND	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L
Acetone	ND	10.0	ug/L
Acrylonitrile	ND	5.00	ug/L
Benzene	ND	1.00	ug/L
Bromochloromethane	ND	1.00	ug/L
Bromodichloromethane	ND	0.50	ug/L
Bromoform	ND	1.00	ug/L
Bromomethane	ND	1.00	ug/L
Carbon disulfide	ND	10.0	ug/L
Carbon tetrachloride	ND	1.00	ug/L
Chlorobenzene	ND	1.00	ug/L
Chloroethane	ND	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

Blank (BAJ0227-BLK1)

Prepared & Analyzed: 10/06/2017

Chloroform	ND	0.50	ug/L							
Chloromethane	ND	1.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
cis-1,3-Dichloropropene	ND	1.00	ug/L							
Dibromochloromethane	ND	0.50	ug/L							
Dibromomethane	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
Iodomethane	ND	10.0	ug/L							
m+p-Xylenes	ND	2.00	ug/L							
Methylene chloride	ND	4.00	ug/L							
o-Xylene	ND	1.00	ug/L							
Styrene	ND	1.00	ug/L							
Tetrachloroethylene (PCE)	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,3-Dichloropropene	ND	1.00	ug/L							
trans-1,4-Dichloro-2-butene	ND	4.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Trichlorofluoromethane	ND	1.00	ug/L							
Vinyl acetate	ND	10.0	ug/L							
Vinyl chloride	ND	0.50	ug/L							
Xylenes, Total	ND	3.00	ug/L							
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Surr: 1,2-Dichloroethane-d4 (Surr)	47.3		ug/L	50.0		94.6	70-120			
Surr: 4-Bromofluorobenzene (Surr)	49.2		ug/L	50.0		98.4	75-120			
Surr: Dibromofluoromethane (Surr)	43.9		ug/L	50.0		87.7	80-119			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0227 - SW5030B										
Blank (BAJ0227-BLK1)				Prepared & Analyzed: 10/06/2017						
<i>Surr: Toluene-d8 (Surr)</i>	48.1		ug/L	50.0		96.2	85-120			
LCS (BAJ0227-BS1)				Prepared & Analyzed: 10/06/2017						
1,1,1,2-Tetrachloroethane	53.5	0.4	ug/L	50.0		107	80-130			
1,1,1-Trichloroethane	45.7	1	ug/L	50.0		91.5	65-130			
1,1,2,2-Tetrachloroethane	50.3	0.4	ug/L	50.0		101	65-130			
1,1,2-Trichloroethane	50.9	1	ug/L	50.0		102	75-125			
1,1-Dichloroethane	45.5	1	ug/L	50.0		91.0	70-135			
1,1-Dichloroethylene	44.5	1	ug/L	50.0		89.1	70-130			
1,2,3-Trichloropropane	49.2	1	ug/L	50.0		98.4	75-125			
1,2-Dichlorobenzene	55.1	1	ug/L	50.0		110	70-120			
1,2-Dichloroethane	40.3	1	ug/L	50.0		80.6	70-130			
1,2-Dichloropropane	48.9	1	ug/L	50.0		97.8	75-125			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0		108	75-125			
2-Butanone (MEK)	35.7	5	ug/L	50.0		71.4	30-150			
2-Hexanone (MBK)	45.1	5	ug/L	50.0		90.2	55-130			
4-Methyl-2-pentanone (MIBK)	42.7	5	ug/L	50.0		85.4	60-135			
Acetone	38.6	10	ug/L	50.0		77.3	40-140			
Acrylonitrile	208	5	ug/L	250		83.2	70-130			
Benzene	47.9	1	ug/L	50.0		95.8	80-120			
Bromochloromethane	44.1	1	ug/L	50.0		88.3	65-130			
Bromodichloromethane	49.4	0.5	ug/L	50.0		98.8	75-120			
Bromoform	48.4	1	ug/L	50.0		96.8	70-130			
Bromomethane	37.8	1	ug/L	50.0		75.6	30-145			
Carbon disulfide	38.2	10	ug/L	50.0		76.5	35-160			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

LCS (BAJ0227-BS1)

Prepared & Analyzed: 10/06/2017

Carbon tetrachloride	45.7	1	ug/L	50.0		91.5	65-140			
Chlorobenzene	52.5	1	ug/L	50.0		105	80-120			
Chloroethane	38.2	1	ug/L	50.0		76.5	60-135			
Chloroform	40.7	0.5	ug/L	50.0		81.4	65-135			
Chloromethane	30.3	1	ug/L	50.0		60.5	40-125			
cis-1,2-Dichloroethylene	43.0	1	ug/L	50.0		86.0	70-125			
cis-1,3-Dichloropropene	48.9	1	ug/L	50.0		97.7	70-130			
Dibromochloromethane	43.3	0.5	ug/L	50.0		86.5	60-135			
Dibromomethane	45.8	1	ug/L	50.0		91.5	75-125			
Ethylbenzene	51.3	1	ug/L	50.0		103	75-125			
m+p-Xylenes	108	2	ug/L	100		108	75-130			
Methylene chloride	37.6	4	ug/L	50.0		75.2	55-140			
o-Xylene	52.7	1	ug/L	50.0		105	80-120			
Styrene	52.5	1	ug/L	50.0		105	65-135			
Tetrachloroethylene (PCE)	75.2	1	ug/L	50.0		150	45-150			L
Toluene	48.6	1	ug/L	50.0		97.1	75-120			
trans-1,2-Dichloroethylene	43.4	1	ug/L	50.0		86.7	60-140			
trans-1,3-Dichloropropene	43.2	1	ug/L	50.0		86.3	55-140			
Trichloroethylene	49.6	1	ug/L	50.0		99.1	70-125			
Trichlorofluoromethane	40.0	1	ug/L	50.0		80.1	60-145			
Vinyl chloride	36.0	0.5	ug/L	50.0		72.0	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>46.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>93.7</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>46.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>92.5</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>44.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>89.5</i>	<i>80-119</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>49.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.1</i>	<i>85-120</i>			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

LCS (BAJ0227-BS1)

Prepared & Analyzed: 10/06/2017

Duplicate (BAJ0227-DUP1)

Source: 17J0208-01

Prepared & Analyzed: 10/06/2017

1,1,1,2-Tetrachloroethane	ND	2.00	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	1.96	5.00	ug/L		1.82			NA	30	
1,1,2,2-Tetrachloroethane	ND	2.00	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	5.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	1.56	5.00	ug/L		1.75			NA	30	
1,1-Dichloroethylene	1.80	5.00	ug/L		1.54			NA	30	
1,2,3-Trichloropropane	ND	5.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	1.03	5.00	ug/L		1.10			NA	30	
1,2-Dichloroethane	ND	5.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	ND	5.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	ND	5.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	25.0	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	25.0	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	25.0	ug/L		BLOD			NA	30	
Acetone	ND	50.0	ug/L		BLOD			NA	30	
Acrylonitrile	ND	25.0	ug/L		BLOD			NA	30	
Benzene	1.80	5.00	ug/L		1.96			NA	30	
Bromochloromethane	ND	5.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	2.50	ug/L		BLOD			NA	30	
Bromoform	ND	5.00	ug/L		BLOD			NA	30	
Bromomethane	ND	5.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	50.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	2.80	5.00	ug/L		BLOD			NA	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0227 - SW5030B										
Duplicate (BAJ0227-DUP1)		Source: 17J0208-01			Prepared & Analyzed: 10/06/2017					
Chlorobenzene	1.51	5.00	ug/L		1.82			NA	30	
Chloroethane	1.80	5.00	ug/L		2.20			NA	30	
Chloroform	1.30	2.50	ug/L		1.35			NA	30	
Chloromethane	1.92	5.00	ug/L		2.22			NA	30	
cis-1,2-Dichloroethylene	1.16	5.00	ug/L		1.39			NA	30	
cis-1,3-Dichloropropene	ND	5.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	2.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	2.11	5.00	ug/L		2.32			NA	30	
Iodomethane	ND	50.0	ug/L		BLOD			NA	30	
m+p-Xylenes	4.15	10.0	ug/L		4.91			NA	30	
Methylene chloride	ND	20.0	ug/L		BLOD			NA	30	
o-Xylene	1.96	5.00	ug/L		1.81			NA	30	
Styrene	1.20	5.00	ug/L		1.44			NA	30	
Tetrachloroethylene (PCE)	2.67	5.00	ug/L		2.70			NA	30	
Toluene	1.96	5.00	ug/L		2.02			NA	30	
trans-1,2-Dichloroethylene	2.23	5.00	ug/L		2.00			NA	30	
trans-1,3-Dichloropropene	ND	5.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	ND	20.0	ug/L		BLOD			NA	30	
Trichloroethylene	2.39	5.00	ug/L		2.28			NA	30	
Trichlorofluoromethane	ND	5.00	ug/L		BLOD			NA	30	
Vinyl acetate	ND	50.0	ug/L		BLOD			NA	30	
Vinyl chloride	1.52	2.50	ug/L		1.78			NA	30	
Xylenes, Total	6.12	15.0	ug/L		6.72			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	246		ug/L	250		98.6	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

Duplicate (BAJ0227-DUP1)

Source: 17J0208-01

Prepared & Analyzed: 10/06/2017

Surr: 4-Bromofluorobenzene (Surr)	243		ug/L	250		97.1	75-120
Surr: Dibromofluoromethane (Surr)	227		ug/L	250		90.8	80-119
Surr: Toluene-d8 (Surr)	243		ug/L	250		97.4	85-120

Matrix Spike (BAJ0227-MS1)

Source: 17J0136-03

Prepared & Analyzed: 10/06/2017

1,1,1,2-Tetrachloroethane	51.4	0.4	ug/L	50.0	BLOD	103	80-130
1,1,1-Trichloroethane	45.0	1	ug/L	50.0	BLOD	90.0	65-130
1,1,2,2-Tetrachloroethane	49.7	0.4	ug/L	50.0	BLOD	99.4	65-130
1,1,2-Trichloroethane	49.2	1	ug/L	50.0	BLOD	98.5	75-125
1,1-Dichloroethane	59.1	1	ug/L	50.0	11.9	94.4	70-135
1,1-Dichloroethylene	45.5	1	ug/L	50.0	BLOD	90.8	70-130
1,2,3-Trichloropropane	48.9	1	ug/L	50.0	BLOD	97.8	75-125
1,2-Dichlorobenzene	53.8	1	ug/L	50.0	0.27	107	70-120
1,2-Dichloroethane	40.9	1	ug/L	50.0	0.71	80.3	70-130
1,2-Dichloropropane	48.8	1	ug/L	50.0	0.78	96.0	75-125
1,4-Dichlorobenzene	57.6	1	ug/L	50.0	4.94	105	75-125
2-Butanone (MEK)	40.1	5	ug/L	50.0	BLOD	80.2	30-150
2-Hexanone (MBK)	45.2	5	ug/L	50.0	BLOD	90.4	55-130
4-Methyl-2-pentanone (MIBK)	42.5	5	ug/L	50.0	BLOD	85.0	60-135
Acetone	38.6	10	ug/L	50.0	BLOD	77.1	40-140
Acrylonitrile	182	5	ug/L	250	BLOD	72.8	70-130
Benzene	47.5	1	ug/L	50.0	1.48	92.1	80-120
Bromochloromethane	44.0	1	ug/L	50.0	BLOD	88.0	65-130
Bromodichloromethane	47.4	0.5	ug/L	50.0	BLOD	94.8	75-120
Bromoform	45.9	1	ug/L	50.0	BLOD	91.8	70-130

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

Matrix Spike (BAJ0227-MS1)	Source: 17J0136-03			Prepared & Analyzed: 10/06/2017						
Bromomethane	34.0	1	ug/L	50.0	BLOD	68.0	30-145			
Carbon disulfide	37.9	10	ug/L	50.0	BLOD	75.8	35-160			
Carbon tetrachloride	43.7	1	ug/L	50.0	BLOD	87.5	65-140			
Chlorobenzene	53.4	1	ug/L	50.0	2.20	102	80-120			
Chloroethane	42.2	1	ug/L	50.0	2.43	79.6	60-135			
Chloroform	41.7	0.5	ug/L	50.0	BLOD	83.3	65-135			
Chloromethane	31.1	1	ug/L	50.0	BLOD	62.2	40-125			
cis-1,2-Dichloroethylene	60.2	1	ug/L	50.0	15.9	88.5	70-125			
cis-1,3-Dichloropropene	45.8	1	ug/L	50.0	BLOD	91.6	70-130			
Dibromochloromethane	41.3	0.5	ug/L	50.0	BLOD	82.6	60-135			
Dibromomethane	44.8	1	ug/L	50.0	BLOD	89.5	75-125			
Ethylbenzene	49.4	1	ug/L	50.0	BLOD	98.8	75-125			
m+p-Xylenes	103	2	ug/L	100	BLOD	103	75-130			
Methylene chloride	40.1	4	ug/L	50.0	BLOD	79.4	55-140			
o-Xylene	51.3	1	ug/L	50.0	BLOD	103	80-120			
Styrene	51.2	1	ug/L	50.0	BLOD	102	65-135			
Tetrachloroethylene (PCE)	71.8	1	ug/L	50.0	0.22	143	45-150			
Toluene	47.1	1	ug/L	50.0	BLOD	93.9	75-120			
trans-1,2-Dichloroethylene	39.8	1	ug/L	50.0	0.31	79.0	60-140			
trans-1,3-Dichloropropene	40.4	1	ug/L	50.0	BLOD	80.9	55-140			
Trichloroethylene	49.0	1	ug/L	50.0	1.75	94.5	70-125			
Trichlorofluoromethane	40.4	1	ug/L	50.0	BLOD	80.9	60-145			
Vinyl chloride	40.9	0.5	ug/L	50.0	3.50	74.9	50-145			
<hr/>										
Surr: 1,2-Dichloroethane-d4 (Surr)	49.4		ug/L	50.0		98.8	70-120			
Surr: 4-Bromofluorobenzene (Surr)	47.3		ug/L	50.0		94.5	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0227 - SW5030B										
Matrix Spike (BAJ0227-MS1)		Source: 17J0136-03			Prepared & Analyzed: 10/06/2017					
<i>Surr: Dibromofluoromethane (Surr)</i>	47.2		ug/L	50.0		94.5	80-119			
<i>Surr: Toluene-d8 (Surr)</i>	49.0		ug/L	50.0		98.1	85-120			
Matrix Spike Dup (BAJ0227-MSD1)		Source: 17J0136-03			Prepared & Analyzed: 10/06/2017					
1,1,1,2-Tetrachloroethane	51.9	0.4	ug/L	50.0	BLOD	104	80-130	1.05	30	
1,1,1-Trichloroethane	45.9	1	ug/L	50.0	BLOD	91.9	65-130	2.10	30	
1,1,2,2-Tetrachloroethane	50.8	0.4	ug/L	50.0	BLOD	102	65-130	2.26	30	
1,1,2-Trichloroethane	50.1	1	ug/L	50.0	BLOD	100	75-125	1.69	30	
1,1-Dichloroethane	58.6	1	ug/L	50.0	11.9	93.3	70-135	0.858	30	
1,1-Dichloroethylene	44.3	1	ug/L	50.0	BLOD	88.4	70-130	2.65	30	
1,2,3-Trichloropropane	49.2	1	ug/L	50.0	BLOD	98.4	75-125	0.616	30	
1,2-Dichlorobenzene	53.9	1	ug/L	50.0	0.27	107	70-120	0.204	30	
1,2-Dichloroethane	42.2	1	ug/L	50.0	0.71	82.9	70-130	3.13	30	
1,2-Dichloropropane	48.5	1	ug/L	50.0	0.78	95.5	75-125	0.481	30	
1,4-Dichlorobenzene	57.6	1	ug/L	50.0	4.94	105	75-125	0.00694	30	
2-Butanone (MEK)	35.6	5	ug/L	50.0	BLOD	71.3	30-150	11.8	30	
2-Hexanone (MBK)	45.9	5	ug/L	50.0	BLOD	91.7	55-130	1.48	30	
4-Methyl-2-pentanone (MIBK)	42.7	5	ug/L	50.0	BLOD	85.3	60-135	0.449	30	
Acetone	36.4	10	ug/L	50.0	BLOD	72.7	40-140	5.85	30	
Acrylonitrile	166	5	ug/L	250	BLOD	66.4	70-130	9.20	30	M
Benzene	48.5	1	ug/L	50.0	1.48	94.1	80-120	2.07	30	
Bromochloromethane	45.1	1	ug/L	50.0	BLOD	90.1	65-130	2.34	30	
Bromodichloromethane	48.0	0.5	ug/L	50.0	BLOD	96.1	75-120	1.33	30	
Bromoform	47.2	1	ug/L	50.0	BLOD	94.3	70-130	2.65	30	
Bromomethane	36.9	1	ug/L	50.0	BLOD	73.8	30-145	8.17	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0227 - SW5030B										
Matrix Spike Dup (BAJ0227-MSD1)		Source: 17J0136-03			Prepared & Analyzed: 10/06/2017					
Carbon disulfide	36.0	10	ug/L	50.0	BLOD	71.9	35-160	5.25	30	
Carbon tetrachloride	43.9	1	ug/L	50.0	BLOD	87.7	65-140	0.308	30	
Chlorobenzene	53.0	1	ug/L	50.0	2.20	102	80-120	0.786	30	
Chloroethane	39.9	1	ug/L	50.0	2.43	74.9	60-135	5.66	30	
Chloroform	42.2	0.5	ug/L	50.0	BLOD	84.4	65-135	1.34	30	
Chloromethane	30.7	1	ug/L	50.0	BLOD	61.4	40-125	1.31	30	
cis-1,2-Dichloroethylene	59.7	1	ug/L	50.0	15.9	87.6	70-125	0.732	30	
cis-1,3-Dichloropropene	46.7	1	ug/L	50.0	BLOD	93.5	70-130	2.03	30	
Dibromochloromethane	42.2	0.5	ug/L	50.0	BLOD	84.4	60-135	2.16	30	
Dibromomethane	46.0	1	ug/L	50.0	BLOD	91.9	75-125	2.62	30	
Ethylbenzene	50.8	1	ug/L	50.0	BLOD	102	75-125	2.77	30	
m+p-Xylenes	105	2	ug/L	100	BLOD	105	75-130	1.12	30	
Methylene chloride	39.9	4	ug/L	50.0	BLOD	79.0	55-140	0.540	30	
o-Xylene	52.5	1	ug/L	50.0	BLOD	105	80-120	2.34	30	
Styrene	52.6	1	ug/L	50.0	BLOD	105	65-135	2.62	30	
Tetrachloroethylene (PCE)	73.1	1	ug/L	50.0	0.22	146	45-150	1.73	30	
Toluene	47.7	1	ug/L	50.0	BLOD	95.2	75-120	1.36	30	
trans-1,2-Dichloroethylene	45.5	1	ug/L	50.0	0.31	90.4	60-140	13.3	30	
trans-1,3-Dichloropropene	41.9	1	ug/L	50.0	BLOD	83.8	55-140	3.49	30	
Trichloroethylene	49.4	1	ug/L	50.0	1.75	95.4	70-125	0.935	30	
Trichlorofluoromethane	40.3	1	ug/L	50.0	BLOD	80.6	60-145	0.352	30	
Vinyl chloride	39.8	0.5	ug/L	50.0	3.50	72.6	50-145	2.81	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.8</i>		ug/L	<i>50.0</i>		<i>97.6</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>47.9</i>		ug/L	<i>50.0</i>		<i>95.8</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>47.1</i>		ug/L	<i>50.0</i>		<i>94.2</i>	<i>80-119</i>			

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0227 - SW5030B

Matrix Spike Dup (BAJ0227-MSD1) **Source: 17J0136-03** Prepared & Analyzed: 10/06/2017

<i>Surr: Toluene-d8 (Surr)</i>	49.5	ug/L	50.0	99.1	85-120
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Certificate of Analysis

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Submitted To: Jake White

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0224 - SW3510C										
Blank (BAJ0224-BLK1)				Prepared & Analyzed: 10/09/2017						
4-Aminobiphenyl	ND	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	ND	2.50	ug/L							
Dibenz (a,h) anthracene	ND	10.0	ug/L							
Diethyl phthalate	ND	10.0	ug/L							
Di-n-butyl phthalate	ND	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	ND	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	41.1		ug/L	100		41.1	20-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	30.2		ug/L	50.0		60.4	23-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	37.6		ug/L	100		37.6	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	42.4		ug/L	50.0		84.8	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	36.0		ug/L	100		36.0	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	45.6		ug/L	50.0		91.1	27-133			
LCS (BAJ0224-BS1)				Prepared & Analyzed: 10/09/2017						
Library Search	ND	0.00	ug/L				0-200			
1,2,4,5-Tetrachlorobenzene	ND	10.0	ug/L				0-200			
1,3,5-Trinitrobenzene	ND	5.00	ug/L				0-200			
1,3-Dinitrobenzene	ND	2.50	ug/L				0-200			
1,4-Naphthoquinone	ND	10.0	ug/L				0-200			
1-Naphthylamine	ND	10.0	ug/L				0-200			
2,3,4,6-Tetrachlorophenol	ND	10.0	ug/L				0-200			
2,4,5-Trichlorophenol	ND	10.0	ug/L				50-110			
2,4,6-Trichlorophenol	53.3	10.0	ug/L	100		53.3	50-115			
2,4-Dichlorophenol	51.0	10.0	ug/L	100		51.0	50-105			
2,4-Dimethylphenol	61.3	0.50	ug/L	100		61.3	30-110			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

LCS (BAJ0224-BS1)

Prepared & Analyzed: 10/09/2017

2,4-Dinitrophenol	84.1	50.0	ug/L	100		84.1	15-140			
2,4-Dinitrotoluene	83.7	10.0	ug/L	100		83.7	21-99			
2,6-Dichlorophenol	ND	10.0	ug/L				0-200			
2,6-Dinitrotoluene	74.0	10.0	ug/L	100		74.0	15-140			
2-Acetylaminofluorene	ND	2.50	ug/L				0-200			
2-Chloronaphthalene	48.3	10.0	ug/L	100		48.3	45-105			
2-Chlorophenol	43.5	10.0	ug/L	100		43.5	15-74			
2-Methylnaphthalene	ND	10.0	ug/L				45-105			
2-Naphthylamine	ND	10.0	ug/L				0-200			
2-Nitroaniline	ND	20.0	ug/L				0-200			
2-Nitrophenol	54.9	10.0	ug/L	100		54.9	40-115			
3,3'-Dichlorobenzidine	67.8	10.0	ug/L	100		67.8	20-110			
3,3'-Dimethylbenzidine	ND	2.50	ug/L				0-200			
3-Methylcholanthrene	ND	10.0	ug/L				0-200			
3-Nitroaniline	ND	20.0	ug/L				0-200			
4,6-Dinitro-2-methylphenol	90.7	50.0	ug/L	100		90.7	40-130			
4-Aminobiphenyl	ND	10.0	ug/L				0-200			
4-Bromophenyl phenyl ether	59.0	10.0	ug/L	100		59.0	15-110			
4-Chloroaniline	ND	10.0	ug/L				15-110			
4-Chlorophenyl phenyl ether	65.7	10.0	ug/L	100		65.7	15-110			
4-Nitroaniline	ND	20.0	ug/L				0-200			
4-Nitrophenol	27.1	50.0	ug/L	100		27.1	0-125			
5-Nitro-o-toluidine	ND	10.0	ug/L				0-200			
7,12-Dimethylbenz (a) anthracene	ND	10.0	ug/L				0-200			
Acenaphthene	56.8	10.0	ug/L	100		56.8	27.7-85.5			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

LCS (BAJ0224-BS1)

Prepared & Analyzed: 10/09/2017

Acenaphthylene	59.8	10.0	ug/L	100		59.8	50-105			
Acetophenone	52.3	20.0	ug/L	100		52.3	0-200			
Anthracene	65.9	10.0	ug/L	100		65.9	55-110			
Benzo (a) anthracene	77.8	0.05	ug/L	100		77.8	55-110			
Benzo (a) pyrene	72.9	0.10	ug/L	100		72.9	55-110			
Benzo (b) fluoranthene	75.4	10.0	ug/L	100		75.4	45-120			
Benzo (g,h,i) perylene	78.8	10.0	ug/L	100		78.8	40-125			
Benzo (k) fluoranthene	70.6	10.0	ug/L	100		70.6	45-125			
Benzyl alcohol	ND	20.0	ug/L				0-200			
bis (2-Chloroethoxy) methane	59.0	10.0	ug/L	100		59.0	40-125			
bis (2-Chloroethyl) ether	61.3	10.0	ug/L	100		61.3	40-125			
2,2'-Oxybis (1-chloropropane)	63.5	10.0	ug/L	100		63.5	40-125			
bis (2-Ethylhexyl) phthalate	78.0	2.50	ug/L	100		78.0	40-125			
Butyl benzyl phthalate	80.8	10.0	ug/L	100		80.8	45-115			
Chlorobenzilate	ND	2.50	ug/L				0-200			
Chrysene	82.7	10.0	ug/L	100		82.7	55-110			
Diallate	ND	2.50	ug/L				0-200			
Dibenz (a,h) anthracene	75.3	10.0	ug/L	100		75.3	40-125			
Dibenzofuran	ND	5.00	ug/L				0-200			
Diethyl phthalate	75.0	10.0	ug/L	100		75.0	40-120			
Dimethoate	ND	2.50	ug/L				0-200			
Dimethyl phthalate	68.9	10.0	ug/L	100		68.9	25-125			
Di-n-butyl phthalate	73.8	10.0	ug/L	100		73.8	55-115			
Di-n-octyl phthalate	75.0	10.0	ug/L	100		75.0	35-135			
Diphenylamine	ND	10.0	ug/L				0-200			

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

LCS (BAJ0224-BS1)

Prepared & Analyzed: 10/09/2017

Disulfoton	ND	2.50	ug/L				0-200			
Ethyl methanesulfonate	ND	20.0	ug/L				0-200			
Ethyl parathion	ND	2.50	ug/L				0-200			
Famphur	ND	2.50	ug/L				0-200			
Fluoranthene	75.2	10.0	ug/L	100		75.2	55-115			
Fluorene	66.2	10.0	ug/L	100		66.2	50-110			
Hexachlorobenzene	53.1	0.05	ug/L	100		53.1	25-125			
Hexachlorobutadiene	45.2	10.0	ug/L	100		45.2	25-125			
Hexachlorocyclopentadiene	31.0	10.0	ug/L	100		31.0	25-125			
Hexachloroethane	43.7	10.0	ug/L	100		43.7	25-125			
Hexachloropropene	ND	2.50	ug/L				0-200			
Indeno (1,2,3-cd) pyrene	72.6	10.0	ug/L	100		72.6	45-125			
Isodrin	ND	10.0	ug/L				0-200			
Isophorone	65.6	10.0	ug/L	100		65.6	10-110			
Isosafrole	ND	10.0	ug/L				0-200			
Kepone	ND	2.50	ug/L				0-200			
m+p-Cresols	ND	10.0	ug/L				30-110			
Methapyrilene	ND	10.0	ug/L				0-200			
Methyl methanesulfonate	ND	10.0	ug/L				0-200			
Methyl parathion	ND	2.50	ug/L				0-200			
Naphthalene	43.9	10.0	ug/L	100		43.9	40-100			
Nitrobenzene	68.7	10.0	ug/L	100		68.7	40-100			
n-Nitrosodiethylamine	ND	2.50	ug/L				0-200			
n-Nitrosodimethylamine	27.0	10.0	ug/L	100		27.0	25-110			
n-Nitrosodi-n-butylamine	ND	10.0	ug/L				0-200			

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

LCS (BAJ0224-BS1)

Prepared & Analyzed: 10/09/2017

n-Nitrosodi-n-propylamine	66.6	10.0	ug/L	100		66.6	12-97			
n-Nitrosodiphenylamine	62.0	10.0	ug/L	100		62.0	12-97			
n-Nitrosomethylethylamine	ND	2.50	ug/L				25-110			
n-Nitrosopiperidine	ND	10.0	ug/L				0-200			
n-Nitrosopyrrolidine	ND	2.50	ug/L				0-200			
o,o,o-Triethyl phosphorothioate	ND	10.0	ug/L				0-200			
o,o-Diethyl o-2-pyrazinyl phosphorothioate	ND	10.0	ug/L				0-200			
o+m+p-Cresols	ND	10.0	ug/L				0-200			
o-Cresol	ND	10.0	ug/L				40-110			
o-Toluidine	ND	2.50	ug/L				0-200			
p-(Dimethylamino) azobenzene	ND	2.50	ug/L				0-200			
p-Chloro-m-cresol	68.9	10.0	ug/L	100		68.9	10-91			
Pentachlorobenzene	ND	10.0	ug/L				0-200			
Pentachloronitrobenzene (quintozene)	ND	1.00	ug/L				0-200			
Pentachlorophenol	53.9	20.0	ug/L	100		53.9	30-109			
Phenacetin	ND	10.0	ug/L				0-200			
Phenanthrene	73.7	10.0	ug/L	100		73.7	50-115			
Phenol	25.4	10.0	ug/L	101		25.1	0-115			
Phorate	ND	2.50	ug/L				0-200			
p-Phenylenediamine	ND	10.0	ug/L				0-200			
Pronamide	ND	10.0	ug/L				0-200			
Pyrene	73.3	10.0	ug/L	100		73.3	27-110			
Safrole	ND	2.50	ug/L				0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>43.0</i>		ug/L	<i>100</i>		<i>43.0</i>	<i>20-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>24.3</i>		ug/L	<i>50.0</i>		<i>48.6</i>	<i>23-87</i>			

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Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

LCS (BAJ0224-BS1)

Prepared & Analyzed: 10/09/2017

Surr: 2-Fluorophenol (Surr)	30.8		ug/L	100		30.8	10-52		
Surr: Nitrobenzene-d5 (Surr)	35.1		ug/L	50.0		70.3	10-98.5		
Surr: Phenol-d5 (Surr)	20.7		ug/L	100		20.7	5-33		
Surr: p-Terphenyl-d14 (Surr)	38.3		ug/L	50.0		76.7	27-133		

Matrix Spike (BAJ0224-MS1)

Source: 17J0136-03

Prepared & Analyzed: 10/09/2017

Library Search	ND	0.00	ug/L		BLOD		0-200		
1,2,4,5-Tetrachlorobenzene	ND	10.0	ug/L		BLOD		0-200		
1,3,5-Trinitrobenzene	ND	5.00	ug/L		BLOD		0-200		
1,3-Dinitrobenzene	ND	2.50	ug/L		BLOD		0-200		
1,4-Naphthoquinone	ND	10.0	ug/L		BLOD		0-200		
1-Naphthylamine	ND	10.0	ug/L		BLOD		0-200		
2,3,4,6-Tetrachlorophenol	ND	10.0	ug/L		BLOD		0-200		
2,4,5-Trichlorophenol	ND	10.0	ug/L		BLOD		50-110		
2,4,6-Trichlorophenol	70.6	10.0	ug/L	100	BLOD	70.6	50-115		
2,4-Dichlorophenol	66.8	10.0	ug/L	100	BLOD	66.8	50-105		
2,4-Dimethylphenol	76.7	0.50	ug/L	100	BLOD	76.7	30-110		
2,4-Dinitrophenol	101	50.0	ug/L	100	BLOD	101	15-140		
2,4-Dinitrotoluene	85.9	10.0	ug/L	100	BLOD	85.9	17-111		
2,6-Dichlorophenol	ND	10.0	ug/L		BLOD		0-200		
2,6-Dinitrotoluene	78.9	10.0	ug/L	100	BLOD	78.9	15-140		
2-Acetylaminofluorene	ND	2.50	ug/L		BLOD		0-200		
2-Chloronaphthalene	64.3	10.0	ug/L	100	BLOD	64.3	45-105		
2-Chlorophenol	65.2	10.0	ug/L	100	BLOD	65.2	19-64		M
2-Methylnaphthalene	ND	10.0	ug/L		BLOD		45-105		

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike (BAJ0224-MS1)

Source: 17J0136-03

Prepared & Analyzed: 10/09/2017

2-Naphthylamine	ND	10.0	ug/L		BLOD		0-200			
2-Nitroaniline	ND	20.0	ug/L		BLOD		0-200			
2-Nitrophenol	69.7	10.0	ug/L	100	BLOD	69.7	40-115			
3,3'-Dichlorobenzidine	51.4	10.0	ug/L	100	BLOD	51.4	20-110			
3,3'-Dimethylbenzidine	ND	2.50	ug/L		BLOD		0-200			
3-Methylcholanthrene	ND	10.0	ug/L		BLOD		0-200			
3-Nitroaniline	ND	20.0	ug/L		BLOD		0-200			
4,6-Dinitro-2-methylphenol	98.6	50.0	ug/L	100	BLOD	98.6	40-130			
4-Aminobiphenyl	ND	10.0	ug/L		BLOD		0-200			
4-Bromophenyl phenyl ether	64.1	10.0	ug/L	100	BLOD	64.1	15-110			
4-Chloroaniline	ND	10.0	ug/L		BLOD		15-110			
4-Chlorophenyl phenyl ether	74.0	10.0	ug/L	100	BLOD	74.0	15-110			
4-Nitroaniline	ND	20.0	ug/L		BLOD		0-200			
4-Nitrophenol	3.83	50.0	ug/L	100	BLOD	3.83	0-125			
5-Nitro-o-toluidine	ND	10.0	ug/L		BLOD		0-200			
7,12-Dimethylbenz (a) anthracene	ND	10.0	ug/L		BLOD		0-200			
Acenaphthene	71.0	10.0	ug/L	100	BLOD	71.0	24-90			
Acenaphthylene	73.0	10.0	ug/L	100	BLOD	73.0	50-105			
Acetophenone	63.3	20.0	ug/L	100	BLOD	63.3	0-200			
Anthracene	67.5	10.0	ug/L	100	BLOD	67.5	55-110			
Benzo (a) anthracene	75.6	0.05	ug/L	100	BLOD	75.6	55-110			
Benzo (a) pyrene	73.4	0.10	ug/L	100	BLOD	73.4	55-110			
Benzo (b) fluoranthene	72.1	10.0	ug/L	100	BLOD	72.1	45-120			
Benzo (g,h,i) perylene	74.8	10.0	ug/L	100	BLOD	74.8	40-125			
Benzo (k) fluoranthene	72.5	10.0	ug/L	100	BLOD	72.5	45-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike (BAJ0224-MS1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
Benzyl alcohol	ND	20.0	ug/L		BLOD		0-200			
bis (2-Chloroethoxy) methane	72.8	10.0	ug/L	100	BLOD	72.8	40-125			
bis (2-Chloroethyl) ether	75.3	10.0	ug/L	100	BLOD	75.3	40-125			
2,2'-Oxybis (1-chloropropane)	80.3	10.0	ug/L	100	BLOD	80.3	40-125			
bis (2-Ethylhexyl) phthalate	71.1	2.50	ug/L	100	1.18	69.9	40-125			
Butyl benzyl phthalate	73.7	10.0	ug/L	100	BLOD	73.7	45-115			
Chlorobenzilate	ND	2.50	ug/L		BLOD		0-200			
Chrysene	81.0	10.0	ug/L	100	BLOD	81.0	55-110			
Diallate	ND	2.50	ug/L		BLOD		0-200			
Dibenz (a,h) anthracene	74.1	10.0	ug/L	100	BLOD	74.1	40-125			
Dibenzofuran	ND	5.00	ug/L		BLOD		0-200			
Diethyl phthalate	77.9	10.0	ug/L	100	BLOD	77.9	40-120			
Dimethoate	ND	2.50	ug/L		BLOD		0-200			
Dimethyl phthalate	72.6	10.0	ug/L	100	BLOD	72.6	25-125			
Di-n-butyl phthalate	72.5	10.0	ug/L	100	BLOD	72.5	55-115			
Di-n-octyl phthalate	69.7	10.0	ug/L	100	BLOD	69.7	35-135			
Diphenylamine	ND	10.0	ug/L		BLOD		0-200			
Disulfoton	ND	2.50	ug/L		BLOD		0-200			
Ethyl methanesulfonate	ND	20.0	ug/L		BLOD		0-200			
Ethyl parathion	ND	2.50	ug/L		BLOD		0-200			
Famphur	ND	2.50	ug/L		BLOD		0-200			
Fluoranthene	76.0	10.0	ug/L	100	1.90	74.1	55-115			
Fluorene	73.3	10.0	ug/L	100	BLOD	73.3	50-110			
Hexachlorobenzene	54.8	0.05	ug/L	100	BLOD	54.8	25-125			
Hexachlorobutadiene	68.8	10.0	ug/L	100	BLOD	68.8	25-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike (BAJ0224-MS1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
Hexachlorocyclopentadiene	48.7	10.0	ug/L	100	BLOD	48.7	25-125			
Hexachloroethane	60.6	10.0	ug/L	100	BLOD	60.6	25-125			
Hexachloropropene	ND	2.50	ug/L		BLOD		0-200			
Indeno (1,2,3-cd) pyrene	71.3	10.0	ug/L	100	BLOD	71.3	45-125			
Isodrin	ND	10.0	ug/L		BLOD		0-200			
Isophorone	82.0	10.0	ug/L	100	BLOD	82.0	10-110			
Isosafrole	ND	10.0	ug/L		BLOD		0-200			
Kepone	ND	2.50	ug/L		BLOD		0-200			
m+p-Cresols	ND	10.0	ug/L		BLOD		30-110			
Methapyrilene	ND	10.0	ug/L		BLOD		0-200			
Methyl methanesulfonate	ND	10.0	ug/L		BLOD		0-200			
Methyl parathion	ND	2.50	ug/L		BLOD		0-200			
Naphthalene	60.5	10.0	ug/L	100	1.46	59.1	40-100			
Nitrobenzene	81.9	10.0	ug/L	100	BLOD	81.9	40-100			
n-Nitrosodiethylamine	ND	2.50	ug/L		BLOD		0-200			
n-Nitrosodimethylamine	32.0	10.0	ug/L	100	BLOD	32.0	25-110			
n-Nitrosodi-n-butylamine	ND	10.0	ug/L		BLOD		0-200			
n-Nitrosodi-n-propylamine	82.4	10.0	ug/L	100	BLOD	82.4	12-97			
n-Nitrosodiphenylamine	65.6	10.0	ug/L	100	BLOD	65.6	12-97			
n-Nitrosomethylethylamine	ND	2.50	ug/L		BLOD		25-110			
n-Nitrosopiperidine	ND	10.0	ug/L		BLOD		0-200			
n-Nitrosopyrrolidine	ND	2.50	ug/L		BLOD		0-200			
o,o,o-Triethyl phosphorothioate	ND	10.0	ug/L		BLOD		0-200			
o,o-Diethyl o-2-pyrazinyl phosphorothioate	ND	10.0	ug/L		BLOD		0-200			
o+m+p-Cresols	ND	10.0	ug/L		BLOD		0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike (BAJ0224-MS1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
o-Cresol	ND	10.0	ug/L		BLOD		40-110			
o-Toluidine	ND	2.50	ug/L		BLOD		0-200			
p-(Dimethylamino) azobenzene	ND	2.50	ug/L		BLOD		0-200			
p-Chloro-m-cresol	85.6	10.0	ug/L	100	BLOD	85.6	10-91			
Pentachlorobenzene	ND	10.0	ug/L		BLOD		0-200			
Pentachloronitrobenzene (quintozene)	ND	1.00	ug/L		BLOD		0-200			
Pentachlorophenol	64.0	20.0	ug/L	100	BLOD	64.0	27-109			
Phenacetin	ND	10.0	ug/L		BLOD		0-200			
Phenanthrene	75.6	10.0	ug/L	100	BLOD	75.6	50-115			
Phenol	30.6	10.0	ug/L	101	BLOD	30.3	0-115			
Phorate	ND	2.50	ug/L		BLOD		0-200			
p-Phenylenediamine	ND	10.0	ug/L		BLOD		0-200			
Pronamide	ND	10.0	ug/L		BLOD		0-200			
Pyrene	69.1	10.0	ug/L	100	BLOD	69.1	23-110			
Safrole	ND	2.50	ug/L		BLOD		0-200			
<hr/>										
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>48.4</i>		<i>ug/L</i>	<i>100</i>		<i>48.4</i>	<i>20-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>31.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>62.2</i>	<i>23-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>35.4</i>		<i>ug/L</i>	<i>100</i>		<i>35.4</i>	<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>42.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>83.9</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>31.3</i>		<i>ug/L</i>	<i>100</i>		<i>31.3</i>	<i>5-33</i>			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>29.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>57.9</i>	<i>27-133</i>			

Matrix Spike Dup (BAJ0224-MSD1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
Library Search	ND	0.00	ug/L		BLOD		0-200		20	
1,2,4,5-Tetrachlorobenzene	ND	10.0	ug/L		BLOD		0-200		20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike Dup (BAJ0224-MSD1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
1,3,5-Trinitrobenzene	ND	5.00	ug/L		BLOD		0-200		20	
1,3-Dinitrobenzene	ND	2.50	ug/L		BLOD		0-200		20	
1,4-Naphthoquinone	ND	10.0	ug/L		BLOD		0-200		20	
1-Naphthylamine	ND	10.0	ug/L		BLOD		0-200		20	
2,3,4,6-Tetrachlorophenol	ND	10.0	ug/L		BLOD		0-200		20	
2,4,5-Trichlorophenol	ND	10.0	ug/L		BLOD		50-110		20	
2,4,6-Trichlorophenol	72.3	10.0	ug/L	100	BLOD	72.3	50-115	2.38	20	
2,4-Dichlorophenol	68.5	10.0	ug/L	100	BLOD	68.5	50-105	2.54	20	
2,4-Dimethylphenol	80.2	0.50	ug/L	100	BLOD	80.2	30-110	4.52	20	
2,4-Dinitrophenol	106	50.0	ug/L	100	BLOD	106	15-140	4.58	20	
2,4-Dinitrotoluene	89.1	10.0	ug/L	100	BLOD	89.1	17-111	3.66	20	
2,6-Dichlorophenol	ND	10.0	ug/L		BLOD		0-200		20	
2,6-Dinitrotoluene	80.7	10.0	ug/L	100	BLOD	80.7	15-140	2.33	20	
2-Acetylaminofluorene	ND	2.50	ug/L		BLOD		0-200		20	
2-Chloronaphthalene	65.6	10.0	ug/L	100	BLOD	65.6	45-105	2.00	20	
2-Chlorophenol	67.4	10.0	ug/L	100	BLOD	67.4	19-64	3.33	20	M
2-Methylnaphthalene	ND	10.0	ug/L		BLOD		45-105		20	
2-Naphthylamine	ND	10.0	ug/L		BLOD		0-200		20	
2-Nitroaniline	ND	20.0	ug/L		BLOD		0-200		20	
2-Nitrophenol	71.3	10.0	ug/L	100	BLOD	71.3	40-115	2.17	20	
3,3'-Dichlorobenzidine	51.7	10.0	ug/L	100	BLOD	51.7	20-110	0.621	20	
3,3'-Dimethylbenzidine	ND	2.50	ug/L		BLOD		0-200		20	
3-Methylcholanthrene	ND	10.0	ug/L		BLOD		0-200		20	
3-Nitroaniline	ND	20.0	ug/L		BLOD		0-200		20	
4,6-Dinitro-2-methylphenol	102	50.0	ug/L	100	BLOD	102	40-130	3.42	20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0224 - SW3510C										
Matrix Spike Dup (BAJ0224-MSD1)		Source: 17J0136-03			Prepared & Analyzed: 10/09/2017					
4-Aminobiphenyl	ND	10.0	ug/L		BLOD		0-200		20	
4-Bromophenyl phenyl ether	64.7	10.0	ug/L	100	BLOD	64.7	15-110	0.916	20	
4-Chloroaniline	ND	10.0	ug/L		BLOD		15-110		20	
4-Chlorophenyl phenyl ether	75.3	10.0	ug/L	100	BLOD	75.3	15-110	1.81	20	
4-Nitroaniline	ND	20.0	ug/L		BLOD		0-200		20	
4-Nitrophenol	37.6	50.0	ug/L	100	BLOD	37.6	0-125	163	20	P
5-Nitro-o-toluidine	ND	10.0	ug/L		BLOD		0-200		20	
7,12-Dimethylbenz (a) anthracene	ND	10.0	ug/L		BLOD		0-200		20	
Acenaphthene	71.8	10.0	ug/L	100	BLOD	71.8	24-90	1.06	20	
Acenaphthylene	73.8	10.0	ug/L	100	BLOD	73.8	50-105	1.21	20	
Acetophenone	59.0	20.0	ug/L	100	BLOD	59.0	0-200	7.12	20	
Anthracene	69.7	10.0	ug/L	100	BLOD	69.7	55-110	3.24	20	
Benzo (a) anthracene	77.2	0.05	ug/L	100	BLOD	77.2	55-110	2.07	20	
Benzo (a) pyrene	76.2	0.10	ug/L	100	BLOD	76.2	55-110	3.77	20	
Benzo (b) fluoranthene	79.1	10.0	ug/L	100	BLOD	79.1	45-120	9.31	20	
Benzo (g,h,i) perylene	79.3	10.0	ug/L	100	BLOD	79.3	40-125	5.79	20	
Benzo (k) fluoranthene	70.7	10.0	ug/L	100	BLOD	70.7	45-125	2.53	20	
Benzyl alcohol	ND	20.0	ug/L		BLOD		0-200		20	
bis (2-Chloroethoxy) methane	74.1	10.0	ug/L	100	BLOD	74.1	40-125	1.76	20	
bis (2-Chloroethyl) ether	76.8	10.0	ug/L	100	BLOD	76.8	40-125	2.04	20	
2,2'-Oxybis (1-chloropropane)	80.6	10.0	ug/L	100	BLOD	80.6	40-125	0.423	20	
bis (2-Ethylhexyl) phthalate	71.0	2.50	ug/L	100	1.18	69.8	40-125	0.0704	20	
Butyl benzyl phthalate	72.3	10.0	ug/L	100	BLOD	72.3	45-115	1.85	20	
Chlorobenzilate	ND	2.50	ug/L		BLOD		0-200		20	
Chrysene	79.3	10.0	ug/L	100	BLOD	79.3	55-110	2.12	20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike Dup (BAJ0224-MSD1)

Source: 17J0136-03

Prepared & Analyzed: 10/09/2017

Diallate	ND	2.50	ug/L		BLOD		0-200		20	
Dibenz (a,h) anthracene	79.3	10.0	ug/L	100	BLOD	79.3	40-125	6.78	20	
Dibenzofuran	ND	5.00	ug/L		BLOD		0-200		20	
Diethyl phthalate	79.3	10.0	ug/L	100	BLOD	79.3	40-120	1.78	20	
Dimethoate	ND	2.50	ug/L		BLOD		0-200		20	
Dimethyl phthalate	74.1	10.0	ug/L	100	BLOD	74.1	25-125	2.11	20	
Di-n-butyl phthalate	72.6	10.0	ug/L	100	BLOD	72.6	55-115	0.138	20	
Di-n-octyl phthalate	70.6	10.0	ug/L	100	BLOD	70.6	35-135	1.30	20	
Diphenylamine	ND	10.0	ug/L		BLOD		0-200		20	
Disulfoton	ND	2.50	ug/L		BLOD		0-200		20	
Ethyl methanesulfonate	ND	20.0	ug/L		BLOD		0-200		20	
Ethyl parathion	ND	2.50	ug/L		BLOD		0-200		20	
Famphur	ND	2.50	ug/L		BLOD		0-200		20	
Fluoranthene	77.9	10.0	ug/L	100	1.90	76.0	55-115	2.53	20	
Fluorene	73.8	10.0	ug/L	100	BLOD	73.8	50-110	0.679	20	
Hexachlorobenzene	55.6	0.05	ug/L	100	BLOD	55.6	25-125	1.39	20	
Hexachlorobutadiene	69.9	10.0	ug/L	100	BLOD	69.9	25-125	1.53	20	
Hexachlorocyclopentadiene	50.1	10.0	ug/L	100	BLOD	50.1	25-125	2.79	20	
Hexachloroethane	61.6	10.0	ug/L	100	BLOD	61.6	25-125	1.65	20	
Hexachloropropene	ND	2.50	ug/L		BLOD		0-200		20	
Indeno (1,2,3-cd) pyrene	76.9	10.0	ug/L	100	BLOD	76.9	45-125	7.57	20	
Isodrin	ND	10.0	ug/L		BLOD		0-200		20	
Isophorone	84.2	10.0	ug/L	100	BLOD	84.2	10-110	2.60	20	
Isosafrole	ND	10.0	ug/L		BLOD		0-200		20	
Kepone	ND	2.50	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike Dup (BAJ0224-MSD1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
m+p-Cresols	ND	10.0	ug/L		BLOD		30-110		20	
Methapyrilene	ND	10.0	ug/L		BLOD		0-200		20	
Methyl methanesulfonate	ND	10.0	ug/L		BLOD		0-200		20	
Methyl parathion	ND	2.50	ug/L		BLOD		0-200		20	
Naphthalene	61.4	10.0	ug/L	100	1.46	60.0	40-100	1.43	20	
Nitrobenzene	83.4	10.0	ug/L	100	BLOD	83.4	40-100	1.79	20	
n-Nitrosodiethylamine	ND	2.50	ug/L		BLOD		0-200		20	
n-Nitrosodimethylamine	33.7	10.0	ug/L	100	BLOD	33.7	25-110	5.36	20	
n-Nitrosodi-n-butylamine	ND	10.0	ug/L		BLOD		0-200		20	
n-Nitrosodi-n-propylamine	83.7	10.0	ug/L	100	BLOD	83.7	12-97	1.66	20	
n-Nitrosodiphenylamine	67.0	10.0	ug/L	100	BLOD	67.0	12-97	2.10	20	
n-Nitrosomethylethylamine	ND	2.50	ug/L		BLOD		25-110		20	
n-Nitrosopiperidine	ND	10.0	ug/L		BLOD		0-200		20	
n-Nitrosopyrrolidine	ND	2.50	ug/L		BLOD		0-200		20	
o,o,o-Triethyl phosphorothioate	ND	10.0	ug/L		BLOD		0-200		20	
o,o-Diethyl o-2-pyrazinyl phosphorothioate	ND	10.0	ug/L		BLOD		0-200		20	
o+m+p-Cresols	ND	10.0	ug/L		BLOD		0-200		20	
o-Cresol	ND	10.0	ug/L		BLOD		40-110		20	
o-Toluidine	ND	2.50	ug/L		BLOD		0-200		20	
p-(Dimethylamino) azobenzene	ND	2.50	ug/L		BLOD		0-200		20	
p-Chloro-m-cresol	86.8	10.0	ug/L	100	BLOD	86.8	10-91	1.35	20	
Pentachlorobenzene	ND	10.0	ug/L		BLOD		0-200		20	
Pentachloronitrobenzene (quintozene)	ND	1.00	ug/L		BLOD		0-200		20	
Pentachlorophenol	65.2	20.0	ug/L	100	BLOD	65.2	27-109	1.76	20	
Phenacetin	ND	10.0	ug/L		BLOD		0-200		20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BAJ0224 - SW3510C

Matrix Spike Dup (BAJ0224-MSD1)	Source: 17J0136-03			Prepared & Analyzed: 10/09/2017						
Phenanthrene	77.9	10.0	ug/L	100	BLOD	77.9	50-115	2.96	20	
Phenol	34.3	10.0	ug/L	101	BLOD	34.0	0-115	11.4	20	
Phorate	ND	2.50	ug/L		BLOD		0-200		20	
p-Phenylenediamine	ND	10.0	ug/L		BLOD		0-200		20	
Pronamide	ND	10.0	ug/L		BLOD		0-200		20	
Pyrene	68.5	10.0	ug/L	100	BLOD	68.5	23-110	0.843	20	
Safrole	ND	2.50	ug/L		BLOD		0-200		20	
<hr/>										
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>50.1</i>		<i>ug/L</i>	<i>100</i>		<i>50.1</i>	<i>20-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>31.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>63.4</i>	<i>23-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>41.4</i>		<i>ug/L</i>	<i>100</i>		<i>41.4</i>	<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>43.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>86.4</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>34.1</i>		<i>ug/L</i>	<i>100</i>		<i>34.1</i>	<i>5-33</i>			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>28.9</i>		<i>ug/L</i>	<i>50.0</i>		<i>57.8</i>	<i>27-133</i>			

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Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0182 - SW3510C										
Blank (BAJ0182-BLK1)				Prepared & Analyzed: 10/06/2017						
Endosulfan sulfate	ND	0.050	ug/L							
Surr: TCMX	0.130		ug/L	0.200		65.0	18-112			
Surr: DCB	0.180		ug/L	0.200		90.0	27-131			
LCS (BAJ0182-BS1)				Prepared & Analyzed: 10/06/2017						
Endosulfan sulfate	0.090	0.050	ug/L	0.100		90.0	23-134			
Surr: TCMX	0.120		ug/L	0.200		60.0	18-112			
Surr: DCB	0.160		ug/L	0.200		80.0	27-131			
Matrix Spike (BAJ0182-MS1)				Source: 17J0136-03		Prepared & Analyzed: 10/06/2017				
Endosulfan sulfate	0.111	0.056	ug/L	0.111	BLOD	100	23-134			
Surr: TCMX	0.156		ug/L	0.222		70.0	18-112			
Surr: DCB	0.144		ug/L	0.222		65.0	27-131			
Matrix Spike Dup (BAJ0182-MSD1)				Source: 17J0136-03		Prepared & Analyzed: 10/06/2017				
Endosulfan sulfate	0.120	0.054	ug/L	0.109	BLOD	110	23-134	7.33	20	
Surr: TCMX	0.185		ug/L	0.217		85.0	18-112			
Surr: DCB	0.185		ug/L	0.217		85.0	27-131			

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Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0144 - SW3510C										
Blank (BAJ0144-BLK1)										
				Prepared: 10/05/2017 Analyzed: 10/10/2017						
2,4,5-T	ND	0.500	ug/L							
<i>Surr: DCAA (Surr)</i>	0.667		ug/L	1.11		60.0	60-112			
LCS (BAJ0144-BS1)										
				Prepared: 10/05/2017 Analyzed: 10/10/2017						
2,4,5-T	0.500	0.500	ug/L	0.556		90.0	53-144			
<i>Surr: DCAA (Surr)</i>	0.611		ug/L	1.11		55.0	60-112			S
Matrix Spike (BAJ0144-MS1)										
				Source: 17J0136-03 Prepared: 10/05/2017 Analyzed: 10/10/2017						
2,4,5-T	0.556	0.500	ug/L	0.556	BLOD	100	53-144			
<i>Surr: DCAA (Surr)</i>	2.22		ug/L	1.11		200	60-112			S
Matrix Spike Dup (BAJ0144-MSD1)										
				Source: 17J0136-03 Prepared: 10/05/2017 Analyzed: 10/10/2017						
2,4,5-T	0.722	0.500	ug/L	0.556	BLOD	130	53-144	26.1	20	P
<i>Surr: DCAA (Surr)</i>	2.33		ug/L	1.11		210	60-112			S

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Client Name: LaBella Associates, D.P.C.
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Micro-extractables by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0184 - SW8011										
Blank (BAJ0184-BLK1)				Prepared: 10/06/2017 Analyzed: 10/07/2017						
1,2-Dibromoethane (EDB)	ND	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	ug/L							
LCS (BAJ0184-BS1)				Prepared: 10/06/2017 Analyzed: 10/07/2017						
1,2-Dibromoethane (EDB)	0.251	0.010	ug/L	0.250		100	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.245	0.010	ug/L	0.250		98.1	65-135			
LCS Dup (BAJ0184-BSD1)				Prepared: 10/06/2017 Analyzed: 10/07/2017						
1,2-Dibromoethane (EDB)	0.277	0.010	ug/L	0.250		111	65-135	9.88	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.273	0.010	ug/L	0.250		109	65-135	10.8	20	
Matrix Spike (BAJ0184-MS1)				Source: 17J0136-03		Prepared: 10/06/2017 Analyzed: 10/07/2017				
1,2-Dibromoethane (EDB)	0.181	0.010	ug/L	0.249	BLOD	72.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.228	0.010	ug/L	0.249	BLOD	91.7	65-135			
Matrix Spike Dup (BAJ0184-MSD1)				Source: 17J0136-03		Prepared: 10/06/2017 Analyzed: 10/07/2017				
1,2-Dibromoethane (EDB)	0.164	0.010	ug/L	0.247	BLOD	66.4	65-135	10.0	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.206	0.010	ug/L	0.247	BLOD	83.7	65-135	10.1	20	

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Date Issued: 10/29/2020 10:24:44AM

Wet Chemistry Analysis - Quality Control
Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BAJ0230 - No Prep Wet Chem										
Blank (BAJ0230-BLK1)				Prepared & Analyzed: 10/09/2017						
Sulfide	ND	1.00	mg/L							
LCS (BAJ0230-BS1)				Prepared & Analyzed: 10/09/2017						
Sulfide	4.68	1	mg/L	5.00		93.6	80-120			
LCS Dup (BAJ0230-BSD1)				Prepared & Analyzed: 10/09/2017						
Sulfide	4.85	1	mg/L	5.00		97.0	80-120	3.57	20	
Matrix Spike (BAJ0230-MS1)				Source: 17J0120-17 Prepared & Analyzed: 10/09/2017						
Sulfide	5.48	1.00	mg/L	5.00	BLOD	110	75-125			
Matrix Spike (BAJ0230-MS2)				Source: 17J0136-03 Prepared & Analyzed: 10/09/2017						
Sulfide	2.87	1.00	mg/L	5.00	BLOD	57.4	75-125			M
Matrix Spike Dup (BAJ0230-MSD1)				Source: 17J0120-17 Prepared & Analyzed: 10/09/2017						
Sulfide	5.26	1.00	mg/L	5.00	BLOD	105	75-125	4.10	20	
Matrix Spike Dup (BAJ0230-MSD2)				Source: 17J0136-03 Prepared & Analyzed: 10/09/2017						
Sulfide	3.83	1.00	mg/L	5.00	BLOD	76.6	75-125	28.7	20	P

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Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
17J0136-01	50.0 mL / 50.0 mL	SW6010D	BAJ0154	SAJ0182	AJ70029
17J0136-02	50.0 mL / 50.0 mL	SW6010D	BAJ0154	SAJ0182	AJ70029
17J0136-03	50.0 mL / 50.0 mL	SW6010D	BAJ0154	SAJ0182	AJ70029
17J0136-04	50.0 mL / 50.0 mL	SW6010D	BAJ0154	SAJ0182	AJ70029
17J0136-05	50.0 mL / 50.0 mL	SW6010D	BAJ0154	SAJ0182	AJ70029

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
17J0136-01	50.0 mL / 50.0 mL	SW6020B	BAJ0157	SAJ0194	AJ70031
17J0136-02	50.0 mL / 50.0 mL	SW6020B	BAJ0157	SAJ0194	AJ70031
17J0136-03	50.0 mL / 50.0 mL	SW6020B	BAJ0157	SAJ0194	AJ70031
17J0136-04	50.0 mL / 50.0 mL	SW6020B	BAJ0157	SAJ0194	AJ70031
17J0136-05	50.0 mL / 50.0 mL	SW6020B	BAJ0157	SAJ0194	AJ70031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
17J0136-01	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0136-02	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0136-03	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0136-04	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	
17J0136-05	6.00 mL / 6.00 mL	SW9215	BAJ0230	SAJ0209	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method: SW3510C		
17J0136-01	900 mL / 5.00 mL	SW8151A	BAJ0144	SAJ0291	AI70122

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method: SW3510C		
17J0136-03	900 mL / 5.00 mL	SW8151A	BAJ0144	SAJ0291	AI70122
17J0136-04	900 mL / 5.00 mL	SW8151A	BAJ0144	SAJ0291	AI70122
17J0136-05	900 mL / 5.00 mL	SW8151A	BAJ0144	SAJ0291	AI70122
17J0136-01	900 mL / 1.00 mL	SW8081B	BAJ0182	SAJ0223	AI70057
17J0136-03	900 mL / 1.00 mL	SW8081B	BAJ0182	SAJ0223	AI70057
17J0136-04	920 mL / 1.00 mL	SW8081B	BAJ0182	SAJ0223	AI70057
17J0136-05	920 mL / 1.00 mL	SW8081B	BAJ0182	SAJ0223	AI70057
17J0136-01	900 mL / 1.00 mL	SW8270E	BAJ0224	SAJ0212	AI70063
17J0136-02	920 mL / 1.00 mL	SW8270E	BAJ0224	SAJ0212	AI70063
17J0136-03	940 mL / 1.00 mL	SW8270E	BAJ0224	SAJ0215	AI70066
17J0136-04	910 mL / 1.00 mL	SW8270E	BAJ0224	SAJ0215	AI70066
17J0136-05	920 mL / 1.00 mL	SW8270E	BAJ0224	SAJ0215	AI70066

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
17J0136-01	5.00 mL / 5.00 mL	SW8260D	BAJ0227	SAJ0207	AJ70012
17J0136-02	5.00 mL / 5.00 mL	SW8260D	BAJ0227	SAJ0207	AJ70012
17J0136-03	5.00 mL / 5.00 mL	SW8260D	BAJ0227	SAJ0207	AJ70012
17J0136-04	5.00 mL / 5.00 mL	SW8260D	BAJ0227	SAJ0207	AJ70012
17J0136-05	5.00 mL / 5.00 mL	SW8260D	BAJ0227	SAJ0207	AJ70012

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17J0136-01	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0136-02	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0136-03	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044
17J0136-04	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
17J0136-05	20.0 mL / 20.0 mL	SW7470A	BAJ0219	SAJ0255	AJ70044

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
17J0136-01	61.9 mL / 2.00 mL	SW8011	BAJ0184	SAJ0169	AG70133
17J0136-02	59.9 mL / 2.00 mL	SW8011	BAJ0184	SAJ0169	AG70133
17J0136-03	61.1 mL / 2.00 mL	SW8011	BAJ0184	SAJ0169	AG70133
17J0136-04	61.2 mL / 2.00 mL	SW8011	BAJ0184	SAJ0169	AG70133
17J0136-05	60.6 mL / 2.00 mL	SW8011	BAJ0184	SAJ0169	AG70133

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.

Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010D in Non-Potable Water</i>	
Barium	VELAP,WVDEP,PADEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP,PADEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Lead	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP,PADEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<i>SW6020B in Non-Potable Water</i>	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Thallium	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8011 in Non-Potable Water</i>	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
<i>SW8081B in Non-Potable Water</i>	
Endosulfan sulfate	NC,VELAP,WVDEP

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Date Issued: 10/29/2020 10:24:44AM

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Submitted To: Jake White

Certified Analyses included in this Report

Analyte	Certifications
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
Isobutyl Alcohol	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
SW8270E in Non-Potable Water	
4-Aminobiphenyl	NC,VELAP,WVDEP
bis (2-Ethylhexyl) phthalate	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certifications
Dibenz (a,h) anthracene	NC,VELAP,WVDEP
Diethyl phthalate	NC,VELAP,WVDEP
Di-n-butyl phthalate	NC,VELAP,WVDEP
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
NCDOH	North Carolina Department of Health	51714	07/31/2020
NJDEP	NELAC-New Jersey DEP	VA015	06/30/2021
NYDOH	New York DOH Drinking Water	12096	04/01/2021
PADEP	NELAC-Pennsylvania Certificate #005	68-03503	10/31/2020
VELAP	NELAC-Virginia Certificate #11064	460021	06/14/2021
WVDEP	West Virginia DEP	350	11/30/2020

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Qualifiers and Definitions

C Continuing calibration verification response for this analyte is outside specifications.

E Estimated concentration, outside calibration range

J The reported result is an estimated value.

L LCS recovery is outside of established acceptance limits

M Matrix spike recovery is outside established acceptance limits

P Duplicate analysis does not meet the acceptance criteria for precision

S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

LOD Limit of Detection

BLOD Below Limit of Detection

LOQ Limit of Quantitation

DF Dilution Factor

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1544 ROYBET ROAD
 RICHMOND, VIRGINIA 23231
 (804) 254-8200 PHONE
 (804)254-8267 FAX

State of custody
 Sample #020
 Rev. 1.2
 Effective 10/16/2004

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: <u>Joyce Engineering, Inc.</u>	INVOICE TO: <u>Colapeper Environmental Services</u>	PROJECT NAME: <u>Unit # 1 - LVCCLP Compliance Wells</u>
CONTACT: <u>John White</u>	INVOICE CONTACT: <u>Paul Howard</u>	DATE NAME: <u>Leavel Valley Center-Sanitary Landfill (Colapeper)</u>
ADDRESS: <u>1804 Oweary Lane, Richmond, VA 23220</u>	INVOICE ADDRESS: <u>17800 Greenway Blvd, Suite 100, Colapeper, VA 23207</u>	PROJECT NUMBER: <u>Job No. 09-1791-02-01</u>
PHONE # <u>(804) 254-8200</u>	INVOICE PHONE # <u>(804) 727-2888</u>	P.O. #
FAX # <u>(804) 254-4393</u>	EMAIL: <u>John@JoyceEngineering.com</u>	Prevalence Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS ID: #

SAMPLER NAME: FRONT-FLY Catcher SAMPLER SIGNATURE: [Signature] Turn Around Time: 10 Day

Media Codes: W-Water, S-Sediment, SW-Surface Water, GS-Ground Water, D-Ditching Water, S-Solid Waste, DW-Dregs, A-Air, SP-Spills, CT-Clean

CLIENT SAMPLE ID	Depth	Composite	Filter Filtered (Distorted Media)	Composite Start Date	Composite Stop Date	Date Date or Composite Stop Date	Date Time or Composite Stop Time	Time Preserved	Media (See Codes)	Number of Containers	ANALYSIS (PRE-SERVATIVE)							COMMENTS		
											VOLUME (liters)	100 S-1As @ 100mls VOLUME	10g TAPB, SW, GS	1000 S-1S1, S-4, S-7 only	1000 S-1S2, S-1S3, S-1S4, S-1S5 only	1000 S-1S6, S-1S7, S-1S8, S-1S9, S-1S10 only	1000 S-1S11, S-1S12, S-1S13, S-1S14, S-1S15 only		1000 S-1S16, S-1S17, S-1S18, S-1S19, S-1S20 only	1000 S-1S21, S-1S22, S-1S23, S-1S24, S-1S25 only
1) NW-20	X					09/15/07	11:00		DW	1	X	X	X	X	X	X	X			
2) NW-2A	X					09/15/07	11:00		DW	1	X	X	X	X	X	X	X			
3) NW-1B	X					09/15/07	11:00		DW	1	X	X	X	X	X	X	X	REMOVED		
4) NW-2B	X					09/15/07	11:00		DW	1	X	X	X	X	X	X	X			
5) NW-4	X					09/15/07	11:00		DW	1	X	X	X	X	X	X	X			
6)																				
7)																				
8)																				
9)																				

QC Data Package	LAB USE ONLY	COOLER TEMP	°C
DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME
DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME
DATE / TIME	DATE / TIME	DATE / TIME	DATE / TIME

JEI-R **17J0134**
 Leavel Valley Compliance Wells
 Rev: 09/2007 Date: 10/02/07



Sampling & Data Information Log

NOAA
National Oceanic and Atmospheric Administration
Office of Ocean and Coastal Resource Assessment
Office of Marine Conservation
300 National Harbor
National Harbor, MD 20740
301-761-8317
www.noaa.gov

Case # 17122

Date Range 2020-2020

Water Sampling Date 2020

Station	Date	Time	Depth	Wind	Wave	Temperature	Salinity	Pinnacles 1-100				Instrument	Operator	Notes
								1	2	3	4			
101	10/10	10:00	10	10	10	10	10	10	10	10	10	10	10	10
102	10/10	10:05	10	10	10	10	10	10	10	10	10	10	10	10
103	10/10	10:10	10	10	10	10	10	10	10	10	10	10	10	10
104	10/10	10:15	10	10	10	10	10	10	10	10	10	10	10	10
105	10/10	10:20	10	10	10	10	10	10	10	10	10	10	10	10
106	10/10	10:25	10	10	10	10	10	10	10	10	10	10	10	10
107	10/10	10:30	10	10	10	10	10	10	10	10	10	10	10	10
108	10/10	10:35	10	10	10	10	10	10	10	10	10	10	10	10
109	10/10	10:40	10	10	10	10	10	10	10	10	10	10	10	10
110	10/10	10:45	10	10	10	10	10	10	10	10	10	10	10	10
111	10/10	10:50	10	10	10	10	10	10	10	10	10	10	10	10
112	10/10	10:55	10	10	10	10	10	10	10	10	10	10	10	10
113	10/10	11:00	10	10	10	10	10	10	10	10	10	10	10	10
114	10/10	11:05	10	10	10	10	10	10	10	10	10	10	10	10
115	10/10	11:10	10	10	10	10	10	10	10	10	10	10	10	10
116	10/10	11:15	10	10	10	10	10	10	10	10	10	10	10	10
117	10/10	11:20	10	10	10	10	10	10	10	10	10	10	10	10
118	10/10	11:25	10	10	10	10	10	10	10	10	10	10	10	10
119	10/10	11:30	10	10	10	10	10	10	10	10	10	10	10	10
120	10/10	11:35	10	10	10	10	10	10	10	10	10	10	10	10
121	10/10	11:40	10	10	10	10	10	10	10	10	10	10	10	10
122	10/10	11:45	10	10	10	10	10	10	10	10	10	10	10	10
123	10/10	11:50	10	10	10	10	10	10	10	10	10	10	10	10
124	10/10	11:55	10	10	10	10	10	10	10	10	10	10	10	10
125	10/10	12:00	10	10	10	10	10	10	10	10	10	10	10	10

NOAA Case # _____ Date Range _____ Instrument Used _____ Operator _____
NOAA Station # _____ Pinnacles # _____ Date Range _____
NOAA Station # _____ Pinnacles # _____ Instrument Used _____ Operator _____
NOAA Station # _____ Pinnacles # _____ Instrument Used _____ Operator _____
NOAA Station # _____ Pinnacles # _____ Instrument Used _____ Operator _____
NOAA Station # _____ Pinnacles # _____ Instrument Used _____ Operator _____



Sample Identification Log

Department of Environmental Protection
Office of Environmental Assessment
600 Somerset Street
Trenton, NJ 08646

Date: 1/28/99

Date Returned: 02/02/99

County: Essex

ID #	Location	Sample			Depth	Volume	Type	Date	Time	Operator	Analysis			Remarks
		Method	Result	Unit							Method	Result	Unit	
101
102
103
104
105
106
107
108
109
110

Name: _____ Method: _____ Date received: _____ Analyzed: _____
 Method: _____ Method: _____ Date: _____ Date: _____
 Method: _____ Method: _____ Date: _____ Date: _____

Date: _____
 By: _____
 Title: _____

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 10/29/2020 10:24:44AM

Sample Conditions Checklist

Samples Received at:	2.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

For Trip Blank see 17J0137-03. BAR 10/05/17 0846

See sample memo on file for detects per client request. KLC 10/5/2017 13:32.

Two amber liters were not delivered for sample MW-3A. Client is to resample and submit. KLC 10/6/2017 13:21.

Analysis Detectable Report

Client Name: Joyce Engineering, Inc.-Richmond
Client Site ID: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Laboratory Sample ID: 1702448-01 Client Sample ID: PZ-4E

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	01	821070A	0.59		0.20	0.20	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-6200 Fax: (804) 298-6207

Certificate of Analysis

Final Report

Laboratory Order ID 17K9448

Client Name: Joyce Engineering, Inc.-Richmond
1664 Ownby Lane
Richmond, VA 23220

Date Received: November 14, 2017 14:30
Date Issued: November 17, 2017 15:48
Project Number: 2180019.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill

Enclosed are the results of analyses for samples received by the laboratory on 11/14/2017 14:30. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Coyne
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done as at the client's request and are not included in the laboratory's fields of certification nor have they been validated for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PZ-4E	17K0448-01	Ground Water	11/16/2017 11:40	11/16/2017 14:00

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1705448-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	01	7439974	8474PSA	11/15/2017 09:50	11/15/2017 15:03	0.04		0.20	0.20	1	ug/L	RCV

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Matrix (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	------

Batch BAK0416 - SW7470A

Blank (BAK0416-BLK1)				Prepared & Analyzed: 11/15/2017						
Mercury	BLOD	0.20	ug/L							
LCS (BAK0416-BS1)				Prepared & Analyzed: 11/15/2017						
Mercury	2.48	0.20	ug/L	2.50	BLOD	99.2	80-120			
LCS Dup (BAK0416-BS2)				Prepared & Analyzed: 11/15/2017						
Mercury	2.50	0.20	ug/L	2.50	BLOD	100	80-120	0.887	20	
Matrix Spike (BAK0416-MS1)				Source: 17900404-09 Prepared & Analyzed: 11/15/2017						
Mercury	2.33	0.20	ug/L	2.50	BLOD	92.3	80-120			
Matrix Spike (BAK0416-MS2)				Source: 17900404-12 Prepared & Analyzed: 11/15/2017						
Mercury	2.37	0.20	ug/L	2.50	BLOD	94.9	80-120			
Matrix Spike Dup (BAK0416-MS3)				Source: 17900404-09 Prepared & Analyzed: 11/15/2017						
Mercury	2.34	0.20	ug/L	2.50	BLOD	89.7	80-120	2.84	20	
Matrix Spike Dup (BAK0416-MS4)				Source: 17900404-12 Prepared & Analyzed: 11/15/2017						
Mercury	2.41	0.20	ug/L	2.50	BLOD	96.3	80-120	1.49	20	

Analytical Summary

Sample ID	Preparation Facility Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Matrix (Total) by EPA 8000/7000 Series Methods					
17900404-09	20.0 mL / 20.0 mL	8270/826A	BAK0416	BAK0416	ACT0000

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Certified Analyses included in this Report

Analyte	Certifications
EMT-K104 in Non-Potable Water	
Mercury	VELAP/NC, WVDEP

Code	Description	Cert. Number	Expires
MDCKE	Maryland DE Drinking Water	341	12/31/2017
NC	North Carolina DE/RS	488	12/31/2017
VELAP Certificate #4137	VELAP Virginia Certificate #4137	40001	06/30/2017
WVDEP	West Virginia DEP	350	11/30/2017

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the publisher pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: <u>Jays Engineering</u>	INVOICE TO:	PROJECT NAME/Quote #:
CONTACT: <u>Jake White</u>	INVOICE CONTACT: <u>Lucia Jones</u>	SITE NAME: <u>Laurel Valley Center Susby Landfill</u>
ADDRESS: <u>604 Cusby Lane</u>	INVOICE ADDRESS: <u>same</u>	PROJECT NUMBER: <u>218009.01</u>
PHONE #: <u>(804) 355-4520</u>	INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL: <u>jwhite@jaysengineering.com</u>	Treatment Program:
Is sample for compliance reporting? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Is sample from a chlorinated supply? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	PWS I.D. #:
SAMPLER NAME (PRINT): <u>Azell</u>	SAMPLER SIGNATURE: <u>Azell</u>	Turn Around Time: Code: <u>10</u> <u>5 Days</u> or ___ Day(s)

Well Codes: WW-Well Water/Surface Water GW-Ground Water DW-Drinking Water S-Self-Service GW-Drugs Air Air-Water Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)				COMMENTS		
1) <u>PZ-48</u>	<input checked="" type="checkbox"/>					<u>11/14/17</u>	<u>11:50</u>		<u>GW</u>	<u>1</u>	<u>X</u>						
2)																	
3)																	
4)																	
5)																	
6)																	
7)																	
8)																	<u>No Seal</u>
9)																	<u>On Ice</u>

CHAIN OF CUSTODY	<u>Azell</u>	<u>11/20/17 12:30</u>	<u>Jays Engineering</u>	<u>11/20/17 15:30</u>	E	QC Data Package	LAB USE ONLY	COOLER TEMP <u>0.2</u> °C
	<u>[Signature]</u>	<u>11/21/17 10:30</u>	<u>[Signature]</u>	<u>11/21/17 10:30</u>	E	Level III <input type="checkbox"/>	JEI-R Laurel Valley Corrective Action We Recd: 11/14/2017 Due: 11/21/2017	
	<u>[Signature]</u>	<u>11/14/17 14:30</u>	<u>[Signature]</u>	<u>11/14/17 14:30</u>	E	Level IV <input type="checkbox"/>		



Sample Preservation Log

Sample Preservation Log
Version 1.00
Rev 4.00
Revised: Feb 21, 2011
Page 1 of 1

Order ID: 17K648

Date Performed: 12/15/11

Analyst Performing Check: [Signature]

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		ORP		Pesticide (201402/000)		SVOC (201202/000)		CMT		pH as Received	pH as Preserved
		< 2	Other	> 12	Other	> 8	Other	< 2	Other	< 2	Other	< 2	Other	< 2	Other	1-1	Other	Residue Received	Residue Received	Residue Received	Residue Received	Other	Other		
01	P																								

NaOH ID: _____ HNO₃ ID: _____ ORP preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂SO₄ ID: _____ pH must be **adjusted between 9.3 - 9.7**
 HCl ID: _____ Na₂CO₃ ID: _____ Buffer Sol'n ID: _____
 1M NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: Joyce Engineering, Inc.-Richmond
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 11/17/2017 3:48:26PM

Sample Conditions Checklist

Sample Received at	N/A
Has any sample been?	NO/Other
How Cooling from soil? If so, what has received heat?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (allows freezing to 0°C or less) or not to be used recently later?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GRO, EPA8021, EPA8204, and RSG-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Laboratory Sample ID: 1808112-01

Client Sample ID: MW-08

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Acidity	01	SM22 25008-2014	10.5		5.0	5.0	1	mg/L
Chloride	01	EPH2000 0 EQ.1	1.9		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.396		0.110	0.150	1	mg/L
Nitrate-Nitrite as N	01	SM22 4500-NO3-NO2-2004	0.40		0.10	0.10	1	mg/L

Laboratory Sample ID: 1808112-02

Client Sample ID: MW-01

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW610C	70.0		2.0	4.0	1	ug/L
1,4-Dichlorobenzene	02	SW620B	0.41	J	0.40	1.00	1	ug/L
Benzene	02	SW620B	0.56	J	0.30	1.00	1	ug/L
Chlorobenzene	02	SW620B	4.98		0.40	1.00	1	ug/L

Laboratory Sample ID: 1808112-03

Client Sample ID: CLF-1

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	03	SW610C	68.3		2.0	4.0	1	ug/L
1,1-Dichloroethane	03	SW620B	1.08		0.40	1.00	1	ug/L
1,2-Dichlorobenzene	03	SW620B	0.20	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW620B	1.82		0.40	1.00	1	ug/L
Benzene	03	SW620B	1.89		0.30	1.00	1	ug/L
Chlorobenzene	03	SW620B	4.38		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW620B	4.08		0.40	1.00	1	ug/L
Trichloroethylene	03	SW620B	0.48	J	0.30	1.00	1	ug/L
Vinyl chloride	03	SW620B	0.48	J	0.30	0.90	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Laboratory Sample ID: 1820112-04

Client Sample ID: MW-02

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Acidity	04	SM22 23208-2011	102		5.0	5.0	1	mg/L
Chloride	04	EPA300.0 R2.1	67.8		10.0	20.0	20	mg/L
Nitrate as N	04	Coli	6.38		0.210	0.500	1	mg/L
Nitrate-Nitrite as N	04RE1	SM22 4500-NO3F-DMS	6.38		0.50	0.50	1	mg/L

Laboratory Sample ID: 1820112-05

Client Sample ID: CLF-01A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
1,1-Dichloroethane	05	SW8260B	3.47		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260B	19.0		0.40	1.00	1	ug/L
Dichlorodifluoromethane	05	SW8260B	1.88		1.00	1.00	1	ug/L
Trichloroethylene	05	SW8260B	7.58		0.50	1.00	1	ug/L
Vinyl chloride	05	SW8260B	0.64		0.30	0.60	1	ug/L
Methane	05	RSK175M	576		2.9	5.0	1	ug/L
Acidity	05	SM22 23208-2011	160		5.0	5.0	1	mg/L
Chloride	05	EPA300.0 R2.1	63.3		10.0	20.0	20	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Laboratory Sample ID: 1809112-06

Client Sample ID: PZ-4E

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	06	SW7470A	0.98		0.20	0.20	1	ug/L
1,1-Dichloroethane	06	SW8260B	0.57	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	06	SW8260B	1.43		0.40	1.00	1	ug/L
m-p-Xylenes	06	SW8260B	0.87	J	0.50	2.00	1	ug/L
Methylene chloride	06	SW8260B	2.58	J	2.00	4.00	1	ug/L
Tetrachloroethylene (PCE)	06	SW8260B	0.60	J	0.40	1.00	1	ug/L
Trichloroethylene	06	SW8260B	0.66	J	0.30	1.00	1	ug/L
Vinyl chloride	06	SW8260B	0.30	J	0.30	0.50	1	ug/L
Xylenes, Total	06	SW8260B	1.10	J	1.00	3.00	1	ug/L
Methane	0606-1	MSL 1756E	4370		14.5	25.0	1	ug/L
Alkalinity	06	SM21 2508-2011	31.0		5.0	5.0	1	mg/L
Chloride	06	SP4300.0 PG.1	2.3		0.5	1.0	1	mg/L
Nitrate as N	06	Calc.	2.87		0.110	0.150	1	mg/L
Nitrosammonia as N	06	SM21 4001-NCOF-2011	2.87		0.10	0.10	1	mg/L

Laboratory Sample ID: 1809112-07

Client Sample ID: CLF-03

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	07	SW8260B	0.02	J	0.40	1.00	1	ug/L
Methane	07	MSL 1756E	4.7	J	2.0	5.0	1	ug/L
Alkalinity	07	SM21 2508-2011	77.0		5.0	5.0	1	mg/L
Chloride	07	SP4300.0 PG.1	4.3		0.0	1.0	1	mg/L
Nitrate as N	07	Calc.	0.308		0.110	0.150	1	mg/L
Nitrosammonia as N	07	SM21 4001-NCOF-2011	0.29		0.10	0.10	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1641 Regent Road • Richmond, Virginia 23227 • Tel: (804) 558-8200 Fax: (804) 558-8201

Certificate of Analysis

Final Report

Sample Delivery Group ID: Laurel Valley Corr. 180404

Client Name: LaBette Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Issued: 4/19/2018 10:17:55AM

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group Laurel Valley Corr. 180404. Work orders included in the sample delivery group:

Work Order	Receive Date	Project Number
1800112	4/19/2018 4:28:00PM	21800119.00.02

Ted Coyne

Laboratory Manager

Final Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfate that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the samples returned in the Certificate of Analysis are shown as at the client's request and are not included in the laboratory's field of certification for them. They have not been verified for adherence to a reference method or procedure.

The signature on this final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

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Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	18D0112-01	Ground Water	04/04/2018 09:25	04/04/2018 16:16
MW-X1	18D0112-02	Ground Water	04/03/2018 09:45	04/04/2018 16:16
CLF-1	18D0112-03	Ground Water	04/03/2018 10:05	04/04/2018 16:16
MW-X2	18D0112-04	Ground Water	04/04/2018 09:55	04/04/2018 16:16
CLF-15A	18D0112-05	Ground Water	04/04/2018 08:40	04/04/2018 16:16
PZ-4E	18D0112-06	Ground Water	04/04/2018 09:00	04/04/2018 16:16
CLF-6E	18D0112-07	Ground Water	04/04/2018 08:10	04/04/2018 16:16
MW-X3D	18D0112-08	Ground Water	04/03/2018 09:35	04/04/2018 16:16
CLF-31	18D0112-09	Ground Water	04/04/2018 08:25	04/04/2018 16:16

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-26

Laboratory Sample ID: 1806112-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-6	MS/17M	04/09/2018 15:05	04/09/2018 15:05	BL00		2.0	5.0	1	ug/L	JCM
Sum Analytes (Sum)	01	88.7%	75-130	04/09/2018 15:05	04/09/2018 15:05							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 23200b-2011	04/12/2018 15:12	04/12/2018 15:21	50.5		5.0	5.0	1	mg/L	MEC
Chloride	01	16887-00-5	EPA300.0 R2.1	04/09/2018 15:43	04/09/2018 15:43	1.9		0.5	1.0	1	mg/L	JCM
Nitrate as N	01	14797-85-8	Calc	04/10/2018 14:44	04/10/2018 14:44	0.395		0.110	0.150	1	mg/L	JW
Nitrate+Nitrite as N	01	NA	SM22 4500-NO3F- 2011	04/10/2018 14:44	04/10/2018 14:44	0.40		0.10	0.10	1	mg/L	MEC
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	04/05/2018 10:10	04/05/2018 11:25	BL0D		0.01	0.05	1	mg/L	JW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809112-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cadmium	02	7440-50-9	SW8210C	04/05/2018 12:00	04/05/2018 14:48	FLD		2.0	4.0	1	ug/L	JPV
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-8	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.10	0.40	1	ug/L	KCB
1,1,1-Trichloroethane	02	71-98-8	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.20	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	02	75-34-6	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.40	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	02	75-05-5	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.50	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	75-34-3	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.20	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	95-19-4	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	95-50-1	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.20	1.00	1	ug/L	KCB
1,2-Dichloropropane	02	107-06-2	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.50	1.00	1	ug/L	KCB
1,2-Dichloropropane	02	78-87-6	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.20	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/05/2018 13:00	04/05/2018 13:00	0.41	J	0.40	1.00	1	ug/L	KCB
2,2,4,4-Tetrafluorobutane (MTF)	02	76-91-3	SW8260B	04/05/2018 13:00	04/05/2018 13:00	FLD		5.00	5.00	1	ug/L	KCB
3-Methyl-2-butanone (MIBK)	02	501-78-2	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.50	0.50	1	ug/L	KCB
4-Methyl-2-pentanone (MMP)	02	108-10-1	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.50	0.50	1	ug/L	KCB
Acetone	02	67-64-1	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		7.00	10.0	1	ug/L	KCB
Acrylonitrile	02	107-13-1	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		1.70	5.00	1	ug/L	KCB
Benzene	02	71-43-2	SW8260B	04/05/2018 13:00	04/05/2018 13:00	0.06	J	0.20	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-6	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.40	1.00	1	ug/L	KCB
Bromodichloromethane	02	75-27-4	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.30	0.50	1	ug/L	KCB
Bromotrichloromethane	02	75-25-2	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.50	1.00	1	ug/L	KCB
Bromomethane	02	74-83-9	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		0.30	1.00	1	ug/L	KCB
Carbon disulfide	02	75-15-0	SW8260B	04/05/2018 13:00	04/05/2018 13:00	BLD		1.00	10.0	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809112-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW82000	04/05/2018 13:08	04/05/2018 13:08	4.88		0.40	1.00	1	ug/L	KCS
Chloroethane	02	78-09-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	02	67-68-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	0.50	1	ug/L	KCS
Chloroethylene	02	74-87-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-14-2	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10001-82-0	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	02	74-96-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		1.00	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Hexamethane	02	74-88-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylene	02	106-48-2	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	2.00	1	ug/L	KCS
1												
Methylene Chloride	02	75-09-2	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	4.00	1	ug/L	KCS
Naphthalene	02	81-20-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	100-60-0	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10001-82-0	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-67-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		1.10	4.00	1	ug/L	KCS
Trichloroethylene	02	79-07-6	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809112-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Trichlorofluoromethane	02	75-99-4	8265.0008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	8265.0008	04/05/2018 13:08	04/05/2018 13:08	BL00		2.20	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	8265.0008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	0.50	1	ug/L	KCS
Benzenes, Total	02	1320-35-1	8265.0008	04/05/2018 13:08	04/05/2018 13:08	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane-d8 (Sum)	02		95.0 %	75-120	04/05/2018 13:08	04/05/2018 13:08						
Sum: 4-Bromofluorobenzene (Sum)	02		93.4 %	75-120	04/05/2018 13:08	04/05/2018 13:08						
Sum: Dibromofluoromethane (Sum)	02		90.9 %	80-119	04/05/2018 13:08	04/05/2018 13:08						
Sum: Toluene-d8 (Sum)	02		101 %	85-120	04/05/2018 13:08	04/05/2018 13:08						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-1

Laboratory Sample ID: 1806112-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	01	7440-48-4	8260-10C	04/06/2018 12:00	04/09/2018 14:47	86.3		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: QLF-1

Laboratory Sample ID: 1809112-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	630-20-8	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW826000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-2	SW826008	04/05/2018 13:28	04/05/2018 13:28	1.86		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	88-19-4	SW826000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	00	85-86-1	SW826008	04/05/2018 13:28	04/05/2018 13:28	0.35	J	0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	107-06-3	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.80	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	79-07-5	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.60	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW826008	04/05/2018 13:28	04/05/2018 13:28	7.82		0.40	1.00	1	ug/L	KCS
Chloroacetylene (MCA)	01	78-07-2	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		5.00	5.00	1	ug/L	KCS
2-Pyridone (MP)	00	64- 79-6	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	106-10-1	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		5.00	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-42-2	SW826008	04/05/2018 13:28	04/05/2018 13:28	1.80		0.30	1.00	1	ug/L	KCS
Bromochloromethane	03	74-87-6	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	03	76-27-4	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	0.50	1	ug/L	KCS
Bromofluoromethane	03	75-25-2	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	1.00	1	ug/L	KCS
Bromomethane	03	74-83-6	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		1.80	50.0	1	ug/L	KCS
Carbon tetrachloride	00	56-23-5	SW826008	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW826008	04/05/2018 13:28	04/05/2018 13:28	4.38		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-1

Laboratory Sample ID: 1806112-03

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	05	156-60-2	SW82000	04/05/2018 13:28	04/05/2018 13:28	0.05		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-8	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	08	13466-1	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	0.50	1	ug/L	KCS
Dibromomethane	09	74-93-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		1.00	1.00	1	ug/L	KCS
Diethylamine	04	103-41-4	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.20	1.00	1	ug/L	KCS
Isobutane	03	74-88-4	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	03	17861-25-1	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		2.00	4.00	1	ug/L	KCS
Naphthalene	02	91-20-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	1.00	1	ug/L	KCS
n-Pentane	03	94-47-8	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	1.00	1	ug/L	KCS
Propene	04	100-42-0	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.20	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-3	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-03-8	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-67-8	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		1.10	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW82000	04/05/2018 13:28	04/05/2018 13:28	0.45	J	0.20	1.00	1	ug/L	KCS
Tetrafluoromethane	03	75-68-4	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW82000	04/05/2018 13:28	04/05/2018 13:28	BLOD		0.20	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-1

Laboratory Sample ID: 1806112-03

Parameter	Entry ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	01	75-01-4	8265-0008	04/05/2018 13:28	04/05/2018 13:28	BLD	J	0.20	0.50	1	ug/L	KCS
Nyenes, Total	02	1330-20-7	8265-0008	04/05/2018 13:28	04/05/2018 13:28	BLD		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane-d4 (Sum)	03	85-3 %	75-120	04/05/2018 13:28	04/05/2018 13:28							
Sum: 4-Bromofluorobenzene (Sum)	04	85.8 %	75-120	04/05/2018 13:28	04/05/2018 13:28							
Sum: Ethoxyfluorobenzene (Sum)	05	88.2 %	85-118	04/05/2018 13:28	04/05/2018 13:28							
Sum: Toluene-d8 (Sum)	06	101 %	85-120	04/05/2018 13:28	04/05/2018 13:28							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-32

Laboratory Sample ID: 1806112-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	04	7439974	8474PSA	04/10/2018 08:29	04/10/2018 14:08	BLGD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/19/2018 10:17:55AM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1809112-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	04	830-20-9	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.10	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	04	71-68-8	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	04	79-34-5	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	0.40	1	ug/L	KCS
1,1,2-Trifluoroethane	04	79-00-5	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	78-34-3	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	78-36-4	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		0.30	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	95-18-4	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	107-06-2	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.20	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	78-87-5	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		5.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	04	521-78-8	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	109-10-1	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		5.00	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		1.50	5.00	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	04	74-87-5	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.50	0.50	1	ug/L	KCS
Bromofluoromethane	04	79-25-2	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		0.50	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	04	75-16-5	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		1.50	5.00	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW82000	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	04	108-90-7	SW82008	04/05/2018 13:57	04/05/2018 13:57	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-X2

Laboratory Sample ID: 1809112-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-05-3	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	04	156-69-2	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10001-01-0	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	04	134-49-1	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	04	74-90-3	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		1.00	1.00	1	ug/L	KCS
Ethylbenzene	04	100-91-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	1.00	1	ug/L	KCS
Isobutane	04	78-88-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	04	179001-20-	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	0.50	1	ug/L	KCS
o-Xylene	04	95-47-8	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	1.00	1	ug/L	KCS
Styrene	04	100-42-3	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	04	127-18-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-1	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	04	156-65-1	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10001-02-8	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-87-8	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		1.50	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-68-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW82000	04/05/2018 13:51	04/05/2018 13:51	BL00		0.20	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-X2

Laboratory Sample ID: 1809112-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	04	1515-20-1	SW8260B	04/05/2018 13:51	04/05/2018 13:51	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	04	80-12-9	70-120	04/05/2018 13:51	04/05/2018 13:51							
Sum: 1,1-Dichloroethane (Sum)	04	80-12-9	70-120	04/05/2018 13:51	04/05/2018 13:51							
Sum: Ethylchloroform (Sum)	04	87-8-5	80-119	04/05/2018 13:51	04/05/2018 13:51							
Sum: Toluene (Sum)	04	80-10-1	80-120	04/05/2018 13:51	04/05/2018 13:51							

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Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-32

Laboratory Sample ID: 1809112-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	04	74-82-6	MS/17M	04092018 18:17	04092018 18:17	BLDG		0.0	0.0	1	ug/L	CHS
Sum Analytes (Sum)	04		75-130	04092018 18:17	04092018 18:17							

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Client Sample ID: MW-32

Laboratory Sample ID: 1806112-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	04	na	SM22 25209-2011	04/12/2018 15:12	04/12/2018 15:21	102		5.0	5.0	1	mg/L	WEC
Chloride	04	18887-05-8	EPA300.0 82.1	04/09/2018 16:58	04/09/2018 16:58	27.8		50.0	25.0	20	mg/L	JCM
Nitrate as N	04	14797-65-8	Calc.	04/10/2018 14:44	04/10/2018 15:18	0.36		0.010	0.050	1	mg/L	WEC
Nitrate-Nitrite as N	04/021	na	SM22 4500-NO3F- 2011	04/10/2018 14:44	04/10/2018 15:18	0.36		0.30	0.30	1	mg/L	WEC
Nitro as N	04	14797-65-0	SM22 4500-NO2B- 2011	04/05/2018 10:10	04/05/2018 11:25	BLOD		0.01	0.05	1	mg/L	JW
Sulfide	04	18406-25-8	SW9215	04/09/2018 11:05	04/09/2018 11:05	BLOD		0.80	1.00	1	mg/L	DLF

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Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1809112-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	05	7439974	8214/MSA	04/10/2018 08:29	04/10/2018 15:02	BLGD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1806112-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-68-8	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	79-34-3	SW82005	04/05/2018 14:12	04/05/2018 14:13	1.47		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	80-10-4	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	85-86-1	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	107-06-2	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.90	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	79-87-5	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.60	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	05	78-93-3	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		5.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	99-10-8	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	106-10-1	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		5.00	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.30	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	05	79-27-4	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.30	0.90	1	ug/L	KCS
Bromofluoromethane	05	79-25-2	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.90	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	50-23-5	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW82005	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809112-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-05-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	05	156-60-2	SW82000	04/05/2018 14:12	04/05/2018 14:13	ND		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-04-8	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.30	1.00	1	ug/L	KCS
Dibromodichloroethane	05	13466-1	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	0.50	1	ug/L	KCS
Dibromomethane	05	74-93-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW82000	04/05/2018 14:12	04/05/2018 14:13	1.68		1.00	1.00	1	ug/L	KCS
Difluoroethane	05	100-41-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.20	1.00	1	ug/L	KCS
Dibromethane	05	74-98-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	05	117601-25	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	2.00	1	ug/L	KCS
Methylcyclohexane	05	75-06-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		2.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-8	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.20	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-2	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-3	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butadiene	05	110-67-8	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		1.30	4.00	1	ug/L	KCS
Trichloroethylene	05	79-07-6	SW82000	04/05/2018 14:12	04/05/2018 14:13	7.88		0.30	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	79-09-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	BLOD		0.20	10.0	1	ug/L	KCS
Vinyl benzenes	05	75-01-4	SW82000	04/05/2018 14:12	04/05/2018 14:13	0.54		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1806112-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	05	1515-20-1	SM8200B	04052018 14:12	04052018 14:13	BL00		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	05	61-15-1	70-120	04052018 14:13	04052018 14:13							
Sum: 1,1-Dibromoethene (Sum)	05	34-4	76-120	04052018 14:13	04052018 14:13							
Sum: 1,1-Dibromoethane (Sum)	05	60-11-9	80-119	04052018 14:13	04052018 14:13							
Sum: Toluene (Sum)	05	107-1	80-120	04052018 14:13	04052018 14:13							

Certificate of Analysis

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Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1806112-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Lead Specie Analysis by GC												
Methane	05	7482-4	RISK17PM	04092018 15:00	04092018 15:30	0%		0.0	0.0	1	ug/L	DFH
Sum Analytes (Sum)	05	00.4 %	70.100	04092018 15:30	04092018 15:30							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1809112-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	05	na	SM22 25209-2011	04/12/2018 15:12	04/12/2018 15:21	100		5.0	5.0	1	mg/L	WBC
Chloride	05	58887-65-8	EPA300.0 82.1	04/05/2018 17:23	04/09/2018 17:23	83.1		50.0	25.0	20	mg/L	JCM
Nitrate as N	05	14797-65-8	Calc.	04/10/2018 14:44	04/10/2018 14:44	BLOD		0.150	0.150	1	mg/L	JW
Nitrosodinitrate as N	05	na	SM22 4500-NO3F- 2011	04/10/2018 14:44	04/10/2018 14:44	BLOD		0.10	0.10	1	mg/L	WBC
Nitrite as N	05	14797-65-0	SM22 4500-NO2B- 2011	04/05/2018 10:10	04/05/2018 11:25	BLOD		0.01	0.05	1	mg/L	JW
Sulfide	05	18496-25-8	SW9215	04/09/2018 11:05	04/09/2018 11:05	BLOD		0.80	1.00	1	mg/L	DLF

Certificate of Analysis

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Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809112-06

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	06	7439974	8474PSA	04/10/2018 08:29	04/10/2018 15:08	0.00		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809112-66

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	06	69-73-9	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	06	71-69-6	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	06	79-34-5	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	78-34-3	SW82008	04/05/2018 14:35	04/05/2018 14:35	0.37	J	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	80-12-4	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	85-53-1	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	06	107-06-2	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.90	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.60	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	06	78-93-3	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		5.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	06	99-79-8	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	106-10-1	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		5.00	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	06	71-43-2	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.30	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.30	0.90	1	ug/L	KCS
Bromofluoromethane	06	78-25-2	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.90	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
Chlorobenzene	06	106-90-7	SW82008	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809112-06

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	06	75-05-3	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-60-2	SW82000	04/05/2018 14:35	04/05/2018 14:35	1.43		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10021-04-8	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.30	1.00	1	ug/L	KCS
Dibromodichloroethane	06	13466-1	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	0.50	1	ug/L	KCS
Dibromomethane	06	74-93-3	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-6	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		1.00	1.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.20	1.00	1	ug/L	KCS
Isobutane	06	74-98-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		1.70	10.0	1	ug/L	KCS
o-xylene	06	17809-25-1	SW82000	04/05/2018 14:35	04/05/2018 14:35	0.87	J	0.50	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW82000	04/05/2018 14:35	04/05/2018 14:35	2.56	J	2.00	4.00	1	ug/L	KCS
p-xylene	06	95-47-8	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	1.00	1	ug/L	KCS
Styrene	06	100-42-5	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	127-18-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	0.60	J	0.40	1.00	1	ug/L	KCS
Toluene	06	100-98-1	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	156-60-1	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10021-02-0	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-67-8	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		1.30	4.00	1	ug/L	KCS
Trichloroethylene	06	79-07-8	SW82000	04/05/2018 14:35	04/05/2018 14:35	0.89	J	0.30	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	79-09-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		0.20	1.00	1	ug/L	KCS
Vinyl acetate	06	108-05-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	BLOD		2.20	10.0	1	ug/L	KCS
Vinyl chloride	06	75-01-4	SW82000	04/05/2018 14:35	04/05/2018 14:35	0.20	J	0.30	0.50	1	ug/L	KCS
Xylenes, Total	06	1331-20-7	SW82000	04/05/2018 14:35	04/05/2018 14:35	1.33	J	1.00	3.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809112-06

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Sum 1,2-Dichloroethane (Sum)	06	8837-86-1	79-120	04/09/2018 14:38	04/09/2018 14:38							
Sum 1,1-Dichloroethene (Sum)	06	8837-86-1	79-120	04/09/2018 14:38	04/09/2018 14:38							
Sum Chloroethene (Sum)	06	8837-86-1	85-118	04/09/2018 14:38	04/09/2018 14:38							
Sum Toluene (Sum)	06	100-82-9	89-120	04/09/2018 14:38	04/09/2018 14:38							
Head Space Analysis by GC												
Methane	06067	74-82-8	89-120	04/09/2018 18:16	04/09/2018 18:16	4370		14.5	25.0	1	ug/L	DFH
Sum Analytes (Sum)	06067	8837-86-1	79-120	04/09/2018 18:16	04/09/2018 18:16							
West Chemistry Analysis												
Ammonia	06	NA	SM23 2009-2011	04/13/2018 15:17	04/13/2018 15:21	31.0		5.0	5.0	1	mg/L	MEC
Chloride	06	10097-09-8	SM200-0 03-1	04/09/2018 17:40	04/09/2018 17:49	2.3		0.5	1.0	1	mg/L	JCM
Ammonia as N	06	14797-85-8	Calc	04/13/2018 15:44	04/10/2018 15:07	2.87		0.110	0.150	1	mg/L	JW
Nitrate-Nitrite as N	06	NA	SM23 4300-NC08- 2011	04/13/2018 14:44	04/10/2018 15:07	2.87		0.10	0.10	1	mg/L	meC
Nitrite as N	06	14797-85-8	SM23 4300-NC08- 2011	04/05/2018 10:10	04/05/2018 11:25	BLOD		0.01	0.05	1	mg/L	JW
Sulfide	06	18496-25-8	SW9215	04/09/2018 11:05	04/09/2018 11:05	BLOD		0.80	1.00	1	mg/L	DLF

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-83

Laboratory Sample ID: 1809112-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	07	7439974	8474PSA	04/10/2018 08:29	04/10/2018 15:13	BLDG		0.20	0.20	1	ug/L	MM

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-83

Laboratory Sample ID: 1809112-47

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	07	830-20-8	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-68-8	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	07	79-34-5	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-3	SW82000	04/05/2018 14:57	04/05/2018 14:57	0.87	J	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-71-4	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	80-19-4	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	85-80-1	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	07	107-06-2	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.90	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	79-87-5	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.60	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	07	78-93-3	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		5.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	07	99-79-8	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	106-10-1	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		5.00	5.00	1	ug/L	KCS
Acetone	07	67-66-1	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.30	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.30	0.80	1	ug/L	KCS
Bromofluoromethane	07	79-25-2	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.80	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SW82000	04/05/2018 14:57	04/05/2018 14:57	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: QLF-81

Laboratory Sample ID: 1809112-47

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	87	75-05-3	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	87	67-66-3	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	0.50	1	ug/L	KCS
Chloromethane	87	74-87-3	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	87	156-88-2	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	87	10061-01-8	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	87	134-49-1	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	87	74-95-3	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	1.00	1	ug/L	KCS
Dichlorodifluoromethane	87	75-71-8	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		1.00	1.00	1	ug/L	KCS
Ethylbenzene	87	100-41-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	1.00	1	ug/L	KCS
Isobutane	87	74-88-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	87	119601-27	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	2.00	1	ug/L	KCS
Methylene chloride	87	75-09-2	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	0.50	1	ug/L	KCS
o-Xylene	87	95-47-8	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	1.00	1	ug/L	KCS
Styrene	87	100-42-5	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	87	127-18-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	1.00	1	ug/L	KCS
Toluene	87	108-88-1	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	87	156-85-1	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	87	10061-02-8	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	87	110-87-8	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		1.50	4.00	1	ug/L	KCS
Trichloroethylene	87	7901-6	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	87	71-68-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	1.00	1	ug/L	KCS
Vinyl acetate	87	108-05-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	10.0	1	ug/L	KCS
Vinyl chloride	87	7501-4	SW8260B	04/05/2018 14:57	04/05/2018 14:57	BL00		0.20	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-83

Laboratory Sample ID: 1806112-87

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	87	1515-20-1	SM8260B	04/05/2018 14:57	04/05/2018 14:57	BLDD		1.00	3.00	1	ug/L	MS
Sum: 1,2-Dichloroethane-94 (Sum)	87	61-89-7	79-120	04/05/2018 14:57	04/05/2018 14:57							
Sum: 4-Bromofluorobenzene (Sum)	87		79-120	04/05/2018 14:57	04/05/2018 14:57							
Sum: 2-Bromoethoxyethane (Sum)	87		80-119	04/05/2018 14:57	04/05/2018 14:57							
Sum: Toluene-95 (Sum)	87		80-120	04/05/2018 14:57	04/05/2018 14:57							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-83

Laboratory Sample ID: 1806112-87

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Lead Specie Analysis by GC												
Methane	87	74-82-6	MS/17M	04092018 15:58	04092018 15:58	4.7	J	0.8	5.0	1	ug/L	CHS
Sum Analytes (Sum)	87	86.2 %	75-100	04092018 15:58	04092018 15:58							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-83

Laboratory Sample ID: 1806112-87

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	07	na	SM22 25209-2011	04/12/2018 15:12	04/12/2018 15:21	77.8		0.0	0.0	1	mg/L	MCC
Chloride	07	18887-05-8	EPA300.0 82.1	04/09/2018 20:47	04/09/2018 20:45	4.3		0.0	1.0	1	mg/L	JCM
Nitrate as N	07	14797-65-8	Cel.	04/10/2018 14:44	04/10/2018 15:10	0.200		0.100	0.100	1	mg/L	JW
Nitrate+Nitrite as N	07	na	SM22 4500-NO3F- 2011	04/10/2018 14:44	04/10/2018 15:10	0.20		0.10	0.10	1	mg/L	mc
Nitro as N	07	14797-65-0	SM22 4500-NO2B- 2011	04/05/2018 10:10	04/05/2018 11:25	BLOD		0.01	0.05	1	mg/L	JW
Sulfide	07	18406-25-8	SW9215	04/09/2018 11:05	04/09/2018 11:05	BLOD		0.80	1.00	1	mg/L	CLF

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-320

Laboratory Sample ID: 1806112-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	08	7439974	8474PSA	04/10/2018 08:29	04/10/2018 18:18	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/19/2018 10:17:55AM**

Client Sample ID: **MW-K20**

Laboratory Sample ID: **1806112-08**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	08	630-20-8	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.10	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	08	71-68-8	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	08	79-34-5	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	0.40	1	ug/L	KCS
1,1,2-Trifluoroethane	08	79-00-5	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	78-34-9	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	79-38-4	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		0.30	1.00	1	ug/L	KCS
1,2-Dichloroethane	08	95-18-4	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	08	107-06-2	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
1,3-Dichloropropene	08	78-87-5	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	08	75-35-3	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		5.00	5.00	1	ug/L	KCS
2-Butanone (MIBK)	08	521-78-8	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		5.00	5.00	1	ug/L	KCS
Acetone	08	67-66-1	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		1.50	5.00	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.30	1.00	1	ug/L	KCS
Bromochloromethane	08	74-87-5	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.30	0.80	1	ug/L	KCS
Bromofluoromethane	08	79-25-2	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	08	75-18-5	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		1.50	50.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW826000	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW826008	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/19/2018 10:17:55AM**

Client Sample ID: **MW-K20**

Laboratory Sample ID: **1809112-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10061-01-8	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-48-1	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		1.00	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	179601-27-	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	08	156-65-1	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10061-02-8	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		1.50	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-88-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW8260B	04/05/2018 15:18	04/05/2018 15:18	BL00		0.20	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: MW-320

Laboratory Sample ID: 1806112-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1330-20-7	SW826008	04/05/2018 15:19	04/05/2018 15:19	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	08	95-17-6	79-120	04/05/2018 15:19	04/05/2018 15:19							
Sum: 1,1-Dichloroethane-04 (Sum)	08	75-34-8	79-120	04/05/2018 15:19	04/05/2018 15:19							
Sum: Ethylchloride-04 (Sum)	08	78-10-7	80-119	04/05/2018 15:19	04/05/2018 15:19							
Sum: Toluene-04 (Sum)	08	108-88-3	80-120	04/05/2018 15:19	04/05/2018 15:19							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-81

Laboratory Sample ID: 1806112-88

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	88	7439974	8474PSA	04/10/2018 08:29	04/10/2018 18:18	BLDG		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-81

Laboratory Sample ID: 1809112-88

Parameter	Emp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.10	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-68-8	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		0.70	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	78-34-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	79-34-4	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		0.30	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	95-19-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	107-06-2	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.80	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	78-87-5	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	08	75-55-5	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		5.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	521-78-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		5.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		5.00	5.00	1	ug/L	KCS
Acetone	08	67-63-1	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	08	74-87-5	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
Bromodichloromethane	08	79-27-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.30	0.80	1	ug/L	KCS
Bromofluoromethane	08	79-25-2	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	08	75-16-5	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW82000	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-81

Laboratory Sample ID: 1809112-89

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
Chloroform	08	67-68-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10061-01-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-48-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		1.00	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	08	17961-27-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	0.50	1	ug/L	KCS
o-Xylene	08	95-47-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
Styrene	08	106-42-3	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	08	156-65-1	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10061-03-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.50	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		1.50	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	71-68-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW82008	04/05/2018 15:41	04/05/2018 15:41	BL00		0.20	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Client Sample ID: CLF-81

Laboratory Sample ID: 1809112-89

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	08	1330-20-7	8265/2008	04/05/2018 15:41	04/05/2018 15:41	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,3-Dichlorobenzene (Sum)	08	67-73-1	75-120	04/05/2018 15:41	04/05/2018 15:41							
Sum: 1,3-Dibromobenzene (Sum)	08	94-2-1	75-120	04/05/2018 15:41	04/05/2018 15:41							
Sum: 2-Bromofluorobenzene (Sum)	08	88-3-1	85-119	04/05/2018 15:41	04/05/2018 15:41							
Sum: Toluene (Sum)	08	107-1-1	85-130	04/05/2018 15:41	04/05/2018 15:41							

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Method (Title) by EPA 8000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
Batch 8800115 - EPA208.2/92.8										
Blank (8800115-BLKT)				Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	BLOD	4.8	ug/L							
LCS (8800115-891)				Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	59	4.8	ug/L	500		119	80-120			
LCS Dup (8800115-892)				Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	120	4.8	ug/L	500		104	80-120	5.71	20	
Matrix Spike (8800115-893)				Source: 1800164-01 Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	525	4.8	ug/L	500	BLOD	109	75-125			
Matrix Spike (8800115-893)				Source: 1800164-01 Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	500	4.8	ug/L	500	BLOD	108	75-125			
Matrix Spike Dup (8800115-892)				Source: 1800164-01 Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	134	4.8	ug/L	500	BLOD	107	75-125	0.918	20	
Matrix Spike Dup (8800115-893)				Source: 1800164-01 Prepared: 04/05/2018 Analyzed: 04/09/2018						
Cobalt	582	4.8	ug/L	500	BLOD	112	75-125	5.80	20	
Batch 8800222 - SW14704										
Blank (8800222-BLKT)				Prepared & Analyzed: 04/10/2018						
Mercury	BLOD	0.20	ug/L							
LCS (8800222-891)				Prepared & Analyzed: 04/10/2018						
Mercury	2.28	0.20	ug/L	2.00		61.5	80-120			

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Date Issued: 4/19/2018 10:17:55AM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual	
Batch 8800022 - RW1475A											
LC8 Dup (8800022-8801)				Prepared & Analyzed 04/19/2018							
Mercury	2.27	0.20	ug/L	2.50		90.8	90-120	5.757	20		
Matrix Spike (8800022-MS1)				Source: 1800119-01 Prepared & Analyzed 04/19/2018							
Mercury	2.40	0.20	ug/L	2.50	8.00	96.1	90-120				
Matrix Spike (8800022-MS2)				Source: 1800119-01 Prepared & Analyzed 04/19/2018							
Mercury	1.13	0.20	ug/L	1.50	8.00	47.3	90-120			W	
Matrix Spike Dup (8800022-MS2')				Source: 1800119-01 Prepared & Analyzed 04/19/2018							
Mercury	2.29	0.20	ug/L	2.50	8.00	91.7	90-120	4.68	20		
Matrix Spike Dup (8800022-MS2'')				Source: 1800119-01 Prepared & Analyzed 04/19/2018							
Mercury	1.19	0.20	ug/L	2.50	8.00	47.6	90-120	4.71	20	W	

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8004108 - 8005008

Blank (8004108-8005008)	Filtered & Analyzed 04/19/2018									
1,1,1-Trichloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dibromochloroethane	BL00	1.00	ug/L							
1,2-Dichloropropane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dibromopropane	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
1,4-Dibromobenzene	BL00	5.00	ug/L							
2-Hexanone (MIX)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acetonitrile	BL00	5.00	ug/L							
Benzene	BL00	1.00	ug/L							
Bromochloromethane	BL00	1.00	ug/L							
Bromoethane	BL00	0.50	ug/L							
Bromobenzene	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch #000118 - 000008										
Batch #000118-0001										
Prepared & Analyzed 04/19/2018										
Chloroform	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,3-Dichloropropene	BL00	1.00	ug/L							
Dibromo dibenzofuran	BL00	0.50	ug/L							
Dibromodibenzofuran	BL00	1.00	ug/L							
Dichlorodibenzofuran	BL00	1.00	ug/L							
Diethylbenzene	BL00	1.00	ug/L							
Isobutane	BL00	10.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							
Nonane	BL00	1.00	ug/L							
o-Xylene	BL00	1.00	ug/L							
Oxane	BL00	1.00	ug/L							
Tetrahydrofuran (THF)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	3.00	ug/L							
Sum 1,3-Dichlorobenzene-H (Sum)	44.1		ug/L	80.0		80.0	70-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8904181 - 8905208										
Blank (890418-8417) Prepared & Analyzed: 04/05/2018										
Sum 4-Bromofluorobenzene (Sum)	45.8		ug/L	50.0		91.7	75-120			
Sum Dibromofluorobenzene (Sum)	41.8		ug/L	50.0		83.7	80-110			
Sum Toluene-d8 (Sum)	46.1		ug/L	50.0		92.2	85-120			
LC8 (890418-841) Prepared & Analyzed: 04/05/2018										
1,1,1-Trichloroethane	45.7	0.4	ug/L	50.0		91.5	80-130			
1,1,1-Trifluoroethane	42.3	1	ug/L	50.0		84.6	65-130			
1,1,2-Trichloroethane	45.9	0.4	ug/L	50.0		91.8	65-130			
1,1,2-Trifluoroethane	44.8	1	ug/L	50.0		89.6	75-125			
1,1-Dichloroethane	43.4	1	ug/L	50.0		86.8	70-135			
1,1-Dichloroethylene	33.5	1	ug/L	50.0		79.0	70-130			
1,2-Dichloroethane	45.2	1	ug/L	50.0		90.4	75-125			
1,2-Dichlorobenzene	46.7	1	ug/L	50.0		93.4	70-120			
1,2-Difluoroethane	39.8	1	ug/L	50.0		79.7	70-130			
1,2-Dibromopropane	44.8	1	ug/L	50.0		89.6	75-125			
1,4-dioxane	44.4	1	ug/L	50.0		88.8	75-125			
2-Butanone (MEK)	34.0	0	ug/L	50.0		68.0	30-150			
2-Heptanone (MIBK)	47.2	0	ug/L	50.0		94.4	30-130			
4-Methyl-2-pentanone (MIBP)	44.8	0	ug/L	50.0		89.6	60-130			
Acetone	39.0	10	ug/L	50.0		77.9	40-140			
Acrylonitrile	173	0	ug/L	200		86.7	70-130			
Benzene	46.7	1	ug/L	50.0		93.4	80-120			
Bromochloroethane	34.5	1	ug/L	50.0		79.0	65-130			
Bromodichloroethane	45.4	0.5	ug/L	50.0		90.8	75-120			
Bromobenzene	43.9	1	ug/L	50.0		87.8	70-130			

Certificate of Analysis

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Date Issued: 4/19/2018 10:17:55AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: 8000128 - 8000208										
LOQ (8000128-8000208)										
Prepared & Analyzed: 04/09/2018										
Bromomethane	32.3	1	ug/L	50.0		64.6	30-140			
Carbon disulfide	34.2	10	ug/L	50.0		68.4	30-160			
Carbon tetrachloride	46.3	1	ug/L	50.0		92.6	55-140			
Chloroacetylene	46.4	1	ug/L	50.0		92.8	50-120			
Chloroethane	46.2	1	ug/L	50.0		92.4	50-120			
Chloroform	36.6	0.5	ug/L	50.0		73.2	50-120			
Chloromethane	37.0	1	ug/L	50.0		74.0	50-120			
cis-1,2-Dichloroethane	34.0	1	ug/L	50.0		68.0	70-125			
cis-1,2-Dichloroethene	41.6	1	ug/L	50.0		83.2	70-130			
Dibromochloromethane	42.2	0.5	ug/L	50.0		84.4	50-120			
Dibromomethane	47.3	1	ug/L	50.0		94.6	75-125			
Dichlorodifluoromethane	34.6	1	ug/L	50.0		69.2	30-150			
Ethylbenzene	46.2	1	ug/L	50.0		92.4	70-125			
mp- Xylene	54.6	2	ug/L	100		109.2	70-130			
Methylcyclohexane	26.1	4	ug/L	25.0		52.2	55-140			
o-Xylene	46.7	1	ug/L	50.0		93.4	50-140			
p-Xylene	46.6	1	ug/L	50.0		93.2	50-120			
Styrene	47.2	1	ug/L	50.0		94.4	55-120			
Tetrachloroethylene (PCE)	71.3	1	ug/L	50.0		142.6	45-150			
Toluene	47.6	1	ug/L	50.0		95.2	75-120			
trans-1,2-Dichloroethylene	46.2	1	ug/L	50.0		92.4	50-140			
trans-1,3-Dichloropropene	42.0	1	ug/L	50.0		84.0	55-140			
Trichloroethylene	47.6	1	ug/L	50.0		95.2	70-120			
Trichlorofluoromethane	36.6	1	ug/L	50.0		73.2	50-140			
Vinyl chloride	36.6	0.5	ug/L	50.0		73.2	50-140			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 180419B - 180419B

LO3 (180419B-01)			Prepared & Analyzed 04/09/2018							
Sum 1,2-Dichloroethane-d4 (Sum)	41.7		ug/L	50.0		83.4	75-120			
Sum 4-Bromodichloroethane (Sum)	48.8		ug/L	50.0		97.6	75-120			
Sum Dibromodichloroethane (Sum)	41.7		ug/L	50.0		83.4	80-110			
Sum Toluene-d8 (Sum)	49.7		ug/L	50.0		99.4	50-120			

Pentane (180419B-02)			Prepared & Analyzed 04/09/2018							
1,1,1-Trichloroethane	BLDD	0.40	ug/L		BLDD			NA	30	
1,1,1-Trichloroethane	BLDD	1.00	ug/L		BLDD			NA	30	
1,1,2-Trichloroethane	BLDD	0.40	ug/L		BLDD			NA	30	
1,1,2-Trichloroethane	BLDD	1.00	ug/L		BLDD			NA	30	
1,1-Dichloroethane	BLDD	1.00	ug/L		BLDD			NA	30	
1,1-Dichloroethane	BLDD	1.00	ug/L		BLDD			NA	30	
1,2-Dichloropropane	BLDD	1.00	ug/L		BLDD			NA	30	
1,2-Dichlorobenzene	BLDD	1.00	ug/L		BLDD			NA	30	
1,2-Dichlorobenzene	BLDD	1.00	ug/L		BLDD			NA	30	
1,2-Dichlorobenzene	BLDD	1.00	ug/L		BLDD			NA	30	
1,4-Dichlorobenzene	BLDD	1.00	ug/L		BLDD			NA	30	
2-Butanone (MEK)	BLDD	5.00	ug/L		BLDD			NA	30	
2-Hexanone (MIBK)	BLDD	5.00	ug/L		BLDD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLDD	5.00	ug/L		BLDD			NA	30	
Acetone	BLDD	10.0	ug/L		BLDD			NA	30	
Acrylonitrile	BLDD	5.00	ug/L		BLDD			NA	30	
Benzene	BLDD	1.00	ug/L		BLDD			NA	30	
Bromochloroethane	BLDD	1.00	ug/L		BLDD			NA	30	
Bromodichloroethane	BLDD	0.50	ug/L		BLDD			NA	30	

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Volatiles Organics Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: 800118 - 800120

Sample (800118-001)	Source: 180118-01	Filtered & Analyzed 04/05/2018								
Bromobenzene	BL00	1.00	ug/L		BL00			NA	10	
Bromomethane	BL00	1.00	ug/L		BL00			NA	10	
Carbon disulfide	BL00	10.0	ug/L		BL00			NA	10	
Carbon tetrachloride	BL00	1.00	ug/L		BL00			NA	10	
Chlorobenzene	BL00	1.00	ug/L		BL00			NA	10	
Chloroethane	BL00	1.00	ug/L		BL00			NA	10	
Chloroform	BL00	0.50	ug/L		BL00			NA	10	
Chloromethane	BL00	1.00	ug/L		BL00			NA	10	
cis-1,2-Dichloroethylene	BL00	1.00	ug/L		BL00			NA	10	
cis-1,2-Dichloropropene	BL00	1.00	ug/L		BL00			NA	10	
Dibromochloromethane	BL00	0.50	ug/L		BL00			NA	10	
Dibromomethane	BL00	1.00	ug/L		BL00			NA	10	
Dichlorodifluoromethane	BL00	1.00	ug/L		BL00			NA	10	
Dichloromethane	BL00	1.00	ug/L		BL00			NA	10	
Dibromofluoromethane	BL00	1.00	ug/L		BL00			NA	10	
Ethylbenzene	BL00	1.00	ug/L		BL00			NA	10	
Isobutane	BL00	10.0	ug/L		BL00			NA	10	
m-xylene	BL00	2.00	ug/L		BL00			NA	10	
Methylene chloride	BL00	4.00	ug/L		BL00			NA	10	
Naphthalene	BL00	1.00	ug/L		BL00			NA	10	
n-Butane	BL00	1.00	ug/L		BL00			NA	10	
Butane	BL00	1.00	ug/L		BL00			NA	10	
Tetrafluoromethane (PFC)	BL00	1.00	ug/L		BL00			NA	10	
Toluene	BL00	1.00	ug/L		BL00			NA	10	
trans-1,2-Dichloroethylene	BL00	1.00	ug/L		BL00			NA	10	
trans-1,2-Dichloropropene	BL00	1.00	ug/L		BL00			NA	10	
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L		BL00			NA	10	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
Batch: 8001181 - 8001188										
Explosive (800118-EXP)										
Source: 1804111-08 Prepared & Analyzed: 04/05/2018										
Trinitrotoluene	BL00	1.00	ug/L		BL00			NA	30	
Trinitrofluorene	BL00	1.00	ug/L		BL00			NA	30	
Vinyl acetate	BL00	10.0	ug/L		BL00			NA	30	
Vinyl chloride	BL00	0.50	ug/L		BL00			NA	30	
Xylenes, Total	BL00	5.00	ug/L		BL00			NA	30	
Sum: 1,3-Dinitrobenzene-04 (Sum)	46.3		ug/L	50.0		46.3	70-120			
Sum: 4-Bromofluorobenzene (Sum)	47.8		ug/L	50.0		46.2	75-120			
Sum: (2,4-Dinitrofluorene) (Sum)	46.3		ug/L	50.0		42.4	90-110			
Sum: (2,4,6-Trinitro) (Sum)	50.4		ug/L	50.0		50.1	80-120			
Metals Spike (800118-MET)										
Source: 1804111-08 Prepared & Analyzed: 04/05/2018										
1,1,1,2-Tetrafluoroethane	27.2	0.4	ug/L	50.0	BL00	74.0	85-120			M
1,1,1-Trichloroethane	26.1	1	ug/L	50.0	BL00	76.1	80-120			
1,1,2,2-Tetrafluoroethane	45.8	0.4	ug/L	50.0	BL00	91.0	85-120			
1,1,2-Trichloroethane	43.0	1	ug/L	50.0	BL00	89.0	75-120			
1,1-Dichloroethane	26.2	1	ug/L	50.0	BL00	76.4	70-120			
1,1-Dichloroethylene	26.7	1	ug/L	50.0	BL00	73.0	70-120			
1,2,3-Trichloropropane	44.0	1	ug/L	50.0	BL00	88.9	70-120			
1,2-Dichlorobenzene	29.6	1	ug/L	50.0	BL00	79.2	70-120			
1,2-Dichloroethane	27.8	1	ug/L	50.0	BL00	79.0	70-120			
1,2-Dichloropropane	40.2	1	ug/L	50.0	BL00	83.0	75-120			
1,4-Dichlorobenzene	26.1	1	ug/L	50.0	BL00	76.0	75-120			
2-Butanone (MIBK)	26.8	5	ug/L	50.0	BL00	71.0	30-100			
2-Heptanone (MIBK)	48.8	5	ug/L	50.0	BL00	97.2	30-120			
4-Methyl-2-pentanone (MIBK)	46.1	5	ug/L	50.0	BL00	92.1	30-120			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8004128 - 8004208										
Main: Spike (8004128-817)										
Source: 1808170-08 Prepared & Analyzed: 04/09/2018										
Acetone	28.3	10	ug/L	50.0	51.00	78.6	80-120			
Acrylonitrile	208	8	ug/L	200	51.00	81.3	75-130			
Benzene	48.1	1	ug/L	50.0	51.00	80.2	90-130			
Bromochloromethane	32.9	1	ug/L	50.0	51.00	66.1	60-120			
Bromodichloromethane	75.3	0.5	ug/L	50.0	51.00	78.8	75-130			
Bromotoluene	44.2	1	ug/L	50.0	51.00	88.2	75-130			
Bromomethane	23.2	1	ug/L	50.0	51.00	50.4	20-140			
Carbon disulfide	25.2	10	ug/L	50.0	51.00	70.4	35-160			
Carbon tetrachloride	58.5	1	ug/L	50.0	51.00	77.0	65-140			
Chlorobenzene	29.8	1	ug/L	50.0	51.00	78.8	80-130			ND
Chloroethane	35.2	1	ug/L	50.0	51.00	70.2	65-130			
Chloroform	26.3	0.5	ug/L	50.0	51.00	72.8	65-130			
Chloromethane	32.3	1	ug/L	50.0	51.00	64.6	40-130			
o-1,2-Dichlorobenzene	24.8	1	ug/L	50.0	51.00	59.6	75-120			ND
o-1,2-Dichlorobenzene	24.2	1	ug/L	50.0	51.00	66.4	75-130			ND
Dibromochloromethane	37.0	0.5	ug/L	50.0	51.00	73.8	60-130			
Dibromomethane	42.5	1	ug/L	50.0	51.00	64.6	75-130			
Dichlorodifluoromethane	24.0	1	ug/L	50.0	51.00	72.1	30-150			
Ethylbenzene	41.0	1	ug/L	50.0	51.00	82.0	75-130			
m,p-Xylene	76.1	2	ug/L	100	51.00	76.1	75-130			
Methylene chloride	30.0	4	ug/L	50.0	51.00	67.0	30-140			
Naphthalene	41.0	1	ug/L	50.0	51.00	62.9	55-140			
p-Xylene	29.4	1	ug/L	50.0	51.00	78.8	80-130			ND
Toluene	28.8	1	ug/L	50.0	51.00	76.1	65-130			
Tetrachloroethylene (PCE)	62.7	1	ug/L	50.0	51.00	1.0	40-150			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 8004128 - 8005208

Matrix Spike (8004128-8017)	Source: 180412-08		Prepared & Analyzed: 04/09/2018							
Toluene	38.3	1	ug/L	50.0	BLOD	79.0	75-125			
trans-1,2-Dichloroethylene	38.7	1	ug/L	50.0	BLOD	73.4	80-140			
trans-1,3-Dichloropropene	34.4	1	ug/L	50.0	BLOD	88.8	55-140			
Trichloroethylene	41.4	1	ug/L	50.0	BLOD	82.8	70-120			
Trichlorofluoromethane	35.7	1	ug/L	50.0	BLOD	71.5	60-145			
Vinyl chloride	35.1	0.5	ug/L	50.0	BLOD	70.1	50-145			
Sum: 1,2-Dichloroethane-d4 (Sum)	46.6		ug/L	50.0		93.3	70-120			
Sum: 4-Bromofluorobenzene (Sum)	50.2		ug/L	50.0		100	75-120			
Sum: Dibromofluoromethane (Sum)	48.4		ug/L	50.0		92.9	80-119			
Sum: Toluene-d8 (Sum)	50.1		ug/L	50.0		100	85-120			

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Head Spike Analysis by QC - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 180209H - Mr. Doug YOC										
Blank (180209H-BLANK)										
Prepared & Analyzed: 04/09/2018										
Methane	BLOD	0.2	ug/L							
Sum Acetylene (Sum)	408		ug/L	407		99.8	70-130			
LCS (180209H-LCS)										
Prepared & Analyzed: 04/09/2018										
Methane	247	0.2	ug/L	208		83.0	70-130			
Sum Acetylene (Sum)	408		ug/L	407		94.5	70-130			
Matrix Spike (180209H-MS1)										
Source: 180211J-01										
Prepared & Analyzed: 04/09/2018										
Methane	208	0.2	ug/L	208	BLOD	109	70-130			
Sum Acetylene (Sum)	400		ug/L	407		113	70-130			
Matrix Spike Dup (180209H-MS2)										
Source: 180211J-01										
Prepared & Analyzed: 04/09/2018										
Methane	208	0.2	ug/L	208	BLOD	111	70-130	2.41	20	
Sum Acetylene (Sum)	407		ug/L	407		118	70-130			

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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0126 - No Prep Wet Chem										
Blank (BBD0126-BLK1)				Prepared & Analyzed: 04/05/2018						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BBD0126-BS1)				Prepared & Analyzed: 04/05/2018						
Nitrite as N	0.10	0.05	mg/L	0.100		99.0	90-120			
Matrix Spike (BBD0126-MS1)				Source: 1808112-84 Prepared & Analyzed: 04/05/2018						
Nitrite as N	0.08	0.05	mg/L	0.100	88.0%	81.0	80-120			
Matrix Spike Dup (BBD0126-MS2)				Source: 1808112-84 Prepared & Analyzed: 04/05/2018						
Nitrite as N	0.08	0.05	mg/L	0.100	BLOD	91.0	80-120	0.00	20	
Batch BBD0114 - No Prep Wet Chem										
Blank (BBD0114-BLK1)				Prepared & Analyzed: 04/09/2018						
Sulfide	BLOD	1.00	mg/L							
LCS (BBD0114-BS1)				Prepared & Analyzed: 04/09/2018						
Sulfide	4.11	1	mg/L	5.00		82.2	80-120			
LCS Dup (BBD0114-BS2)				Prepared & Analyzed: 04/09/2018						
Sulfide	4.04	1	mg/L	5.00		80.8	80-120	0.603	20	
Matrix Spike (BBD0114-MS1)				Source: 1808114-81 Prepared & Analyzed: 04/09/2018						
Sulfide	4.32	1.00	mg/L	5.00	BLOD	86.4	75-125			
Matrix Spike Dup (BBD0114-MS2)				Source: 1808114-81 Prepared & Analyzed: 04/09/2018						
Sulfide	4.38	1.00	mg/L	5.00	BLOD	87.6	75-125	1.88	20	

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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch BR02021 - No Dup IC										
Blank (BR02021-BLKT)				Prepared & Analyzed: 04/09/2018						
Chloride	BLD	1.0	mg/L							
LCS (BR02021-BLKT)				Prepared & Analyzed: 04/09/2018						
Chloride	0.0	1	mg/L	0.00		100	90-110			
LCS Dup (BR02021-BLKT)				Prepared & Analyzed: 04/09/2018						
Chloride	0.0	1	mg/L	0.00		100	90-110	0.150	15	
Matrix Spike (BR02021-MST)				Source: BR02021-01		Prepared & Analyzed: 04/09/2018				
Chloride	0.7	1	mg/L	0.00	1.8	87.8	90-110			
Matrix Spike Dup (BR02021-MSD)				Source: BR02021-01		Prepared & Analyzed: 04/09/2018				
Chloride	0.7	1	mg/L	0.00	1.8	97.8	90-110	0.160	10	
Batch BR02021 - No Dup Tot N										
Blank (BR02021-BLKT)				Prepared & Analyzed: 04/10/2018						
Nitrate+Nitrite as N	BLD	0.10	mg/L							
LCS (BR02021-BLKT)				Prepared & Analyzed: 04/10/2018						
Nitrate+Nitrite as N	2.00	0.1	mg/L	2.00		100	90-110			
Matrix Spike (BR02021-MST)				Source: BR02021-01		Prepared & Analyzed: 04/10/2018				
Nitrate+Nitrite as N	2.85	0.10	mg/L	2.00	BLD	114	90-110			ND
Matrix Spike Dup (BR02021-MSD)				Source: BR02021-01		Prepared & Analyzed: 04/10/2018				
Nitrate+Nitrite as N	2.84	0.10	mg/L	2.00	BLD	114	90-110	0.250	20	ND



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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0341 - No Prep Wet Chem										
Blank (BBD0341-BLK1)										
Alkalinity	BLOD	5.0	mg/L							
Prepared & Analyzed: 04/12/2018										
LCS (BBD0341-BS1)										
Alkalinity	51.6	5.0	mg/L	50.0		103	90-130			
Prepared & Analyzed: 04/12/2018										
Matrix Spike (BBD0341-MS1)										
Alkalinity	64.0	5.0	mg/L	50.0	10.5	107	75-125			
Source: 1804112-01 Prepared & Analyzed: 04/12/2018										
Matrix Spike Dup (BBD0341-MS2)										
Alkalinity	64.0	5.0	mg/L	50.0	10.5	107	75-125	0.00	20	
Source: 1804112-01 Prepared & Analyzed: 04/12/2018										

Certificate of Analysis

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Flow) by EPA 8210/8215 Series Methods			Preparation Method	EPA200.2/R2.8	
1800110-02	50.0 mL / 50.0 mL	8210/IC	8800198	SBD0198	AD80031
1800110-05	50.0 mL / 50.0 mL	8210/IC	8800198	SBD0198	AD80031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis			Preparation Method	No Prep IC	
1800110-01	1.00 mL / 1.00 mL	EPA8210-R2.1	8800021	8800021	AD80031
1800110-02	1.00 mL / 1.00 mL	EPA8210-R2.1	8800021	8800021	AD80031
1800110-03	1.00 mL / 1.00 mL	EPA8210-R2.1	8800021	8800021	AD80031
1800110-04	1.00 mL / 1.00 mL	EPA8210-R2.1	8800021	8800021	AD80031
1800110-05	1.00 mL / 1.00 mL	EPA8210-R2.1	8800021	8800021	AD80031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Flow) Analysis by GC			Preparation Method	No Prep WQS	
1800110-01	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-02	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-03	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-04	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-05	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-06	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031
1800110-07	5.00 mL / 5.00 mL	8210/IC	8800021	8800021	AD80031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis			Preparation Method	No Prep Wet Chem	
1800110-01	25.0 mL / 25.0 mL	8210 4004-NC05-2011	8800118	8800118	AC80118
1800110-04	25.0 mL / 25.0 mL	8210 4004-NC05-2011	8800118	8800118	AC80118

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Collection ID
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
180010-00	25.0 mL / 25.0 mL	SM2 4004-AC08-2011	080010	080010	AC0010
180010-08	25.0 mL / 25.0 mL	SM2 4004-AC08-2011	080010	080010	AC0010
180010-07	25.0 mL / 25.0 mL	SM2 4004-AC08-2011	080010	080010	AC0010
180010-04	8.00 mL / 8.00 mL	SM215	080010	080024	
180010-05	8.00 mL / 8.00 mL	SM215	080010	080024	
180010-06	8.00 mL / 8.00 mL	SM215	080010	080024	
180010-07	8.00 mL / 8.00 mL	SM215	080010	080024	
180010-09	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-08	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-040001	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-05	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-06	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-07	8.00 mL / 8.00 mL	SM2 4004-AC08-2011	080010	080021	AC0001
180010-04	100 mL / 100 mL	SM20 2000-2011	080010	080030	
180010-05	50.0 mL / 50.0 mL	SM20 2000-2011	080010	080030	
180010-06	50.0 mL / 50.0 mL	SM20 2000-2011	080010	080030	
180010-08	50.0 mL / 50.0 mL	SM20 2000-2011	080010	080030	
180010-07	50.0 mL / 50.0 mL	SM20 2000-2011	080010	080030	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Collection ID
Volatile Organic Compounds by GCMS					
			Preparation Method	SM2008	
180010-00	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-08	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-04	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-05	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-06	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-07	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010
180010-08	8.00 mL / 8.00 mL	SM2008	080010	080070	AC0010

Certificate of Analysis

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Date Issued: **4/19/2018 10:17:55AM**

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Organic Compounds by GCMS					
180010-08	5.00 mL / 5.00 mL	8240.008	8800108	8800108	AD0018
Metals (Lead) by EPA 8210/8220 Series Methods					
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000
180010-08	20.0 mL / 20.0 mL	8210.004	8800108	8800238	AD0000

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
<i>EPAL001F R2.1 in Non-Potable Water</i>	
Chloride	VELAP,NC,WVDEP
<i>MSX17SM in Non-Potable Water</i>	
Methane	VELAP
<i>SM22 2320B-2011 in Non-Potable Water</i>	
Alkalinity	VELAP,WVDEP
<i>SM22 4500-NO2B-2011 in Non-Potable Water</i>	
Nitrite as N	VELAP,WVDEP
<i>SM22 4500-NO3F-2011 in Non-Potable Water</i>	
Nitrate+Nitrite as N	VELAP,WVDEP
<i>SW6010C in Non-Potable Water</i>	
Cobalt	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8260B in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,2-Trichloropropene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Certified Analyses included in this Report

Analyte	Certification
1,1-Dichloroethene	NC, VELAP, WYDEP
1-Butene (MR)	NC, VELAP, WYDEP
2-Heptene (MR)	NC, VELAP, WYDEP
4-Methyl-2-pentanone (MR)	NC, VELAP, WYDEP
Axylene	NC, VELAP, WYDEP
Acrylonitrile	NC, VELAP, WYDEP
Benzene	NC, VELAP, WYDEP
Bromochloromethane	NC, VELAP, WYDEP
Bromodichloromethane	NC, VELAP, WYDEP
Bromobenzene	NC, VELAP, WYDEP
Bromomethane	NC, VELAP, WYDEP
Carbon disulfide	NC, VELAP, WYDEP
Carbon tetrachloride	NC, VELAP, WYDEP
Chlorobenzene	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Isomethane	NC, VELAP, WYDEP
m,p-Xylenes	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Certified Analyses included in this Report

Analyte	Certifications
Styrene	NC, VELAP, WVDEP
Tetrahydroethylene (PCE)	NC, VELAP, WVDEP
Toluene	NC, VELAP, WVDEP
trans-1,2-Dichloroethylene	NC, VELAP, WVDEP
trans-1,3-Dichloropropene	NC, VELAP, WVDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WVDEP
Trichloroethylene	NC, VELAP, WVDEP
Trichlorofluoromethane	NC, VELAP, WVDEP
Vinyl acetate	NC, VELAP, WVDEP
Vinyl chloride	NC, VELAP, WVDEP
Xylenes, Total	NC, VELAP, WVDEP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MDDOE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2018
VELAP Certificate #4337	NELAC-Virginia Certificate #9551	490021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/19/2018 10:17:55AM

Qualifiers and Definitions

- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits

- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BL00 Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1541 REYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 355-8295 PHONE
 (804)355-8297 FAX

Chain of Custody
 Form # C-0201
 Rev. 1.0
 Effective Feb 14, 2014

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Caloper Environmental Services	PROJECT NAME/Quote #: LVCALP Corrective Action Well
CONTACT: Jake White	INVOICE CONTACT: Paul Toward	SITE NAME: Laurel Valley Center Sanitary Landfill (Caloper)
ADDRESS: 1604 Denby Lane, Richmond, VA 23220	INVOICE ADDRESS: 119 Mag Early Blvd, Suite 101, Colfax, VA 23220	PROJECT NUMBER: Job No. 2180019.00.02
PHONE #: (804) 355-8295	INVOICE PHONE #: (804) 727-2608	P.O. #:
FAX #: (804) 355-4282	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Anderson* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Day(s)

Water Codes: WW-Waste Water/Storm Water GW-Ground Water DW-Drinking Water S-Solids GS-Organic Anions SP-Spills OT-Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS
											1,4-DCP's (MCL) + Dichlorodibenzodioxin (MCL)	Naphthalene-1,2,3,6 (MCL)	Cobalt (MCL)	Mercury (MCL)	Nitrate (MCL) (Nitr) / Nit	Ammonia / Chloride / MDA	7 + 16-1 Methane (MCL)	Sulfide (MCL + 2xM)	
1) MW-24	X					4/15/18	08:00		W	1	X	X	X	X	X	X	X		
2) MW-23	X					4/15/18	08:05		W	1	X	X	X	X	X	X	X		
3) CAP-1	X					4/15/18	08:07		W	1	X	X	X	X	X	X	X		
4) MW-22	X					4/15/18	08:55		W	1	X	X	X	X	X	X	X		
5) CAP-15A	X					4/15/18	09:06		W	1	X	X	X	X	X	X	X		
6) PL-40	X					4/15/18	09:08		W	1	X	X	X	X	X	X	X		
7) CAP-53	X					4/15/18	09:16		W	1	X	X	X	X	X	X	X		
8) MW-23B	X					4/15/18	09:17		W	1	X	X	X	X	X	X	X	see SOP	
9) CAP-51	X					4/15/18	09:18		W	1	X	X	X	X	X	X	X	see SOP	

DATE RECEIVED: *4/15/18* TIME RECEIVED: *08:00*

DATE DELIVERED: *4/18/18* TIME DELIVERED: *09:18*

LAB USE ONLY

COOLER TEMP: *10.0* °C

LaBella Associates, 1810112
 Laurel Valley Corrective Action We
 Recd: 04/14/2018 Del: 04/18/2018

DATE RECEIVED



Order ID: 1800112

Sample Preservation Log

Date Performed: 04 April 18

Sample Preservation Log
Form F-1301
Rev 8.0.0
Effective: May 26, 2016
Page 1 of 1

Page 18 of 70

Analyst Performing Check: DL

Sample ID	ID	Metals		Cyanide	Sulfide		Ammonia		TKN	Phos. Tot		NO3-NO2		DRD	Pesticide (EPA/USEPA)		SVOC (EPA/USEPA)		C-VI		Pesticide (EPA/USEPA)		
		As	Cd	CN	As	H2S	As	NH3	As	P	As	NO3	NO2	As	As	As	As	As	As	As	As	As	
01	A	/																					
02	A	/																					
03	A	/																					
04	B	/																					
04	C	/																					
04	D	/																					
05	B	/																					
05	C	/																					
05	D	/																					
06	B	/																					
06	C	/																					
06	D	/																					
07	B	/																					
07	C	/																					
07	D	/																					

NaOH ID: _____ HNO3 ID: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____
 HCL ID: _____ Na2SO3 ID: _____

CrVI preserved date/time: _____ Analyst Initials: _____
 * pH must be adjusted between 9.3 - 9.7
 Buffer Sol'n ID: _____
 1N NaOH ID: _____ 5N NaOH: _____

Sample Preservation Log

Order ID: 18DDM2

Date Performed: 04 April 18

Analyst Performing Check: [Signature]

Sample ID	ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3-NO2		DRO		Pesticides (8081/608/508)		SVOC (525.2/8270/625)		CrVI*		Pres/P/Cl (500.1) SVOC(525)					
		ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L		
		Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	Res.CI as Received	Res.CI P/A (if adjust.)	pH as Received	Adjusted final pH	pH as Received	Adjusted final pH	pH as Received	Adjusted final pH		
03	A																												
04	A																												

NaOH ID: _____ HNO3 ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
H2SO4 ID: _____ Na2S2O3 ID: _____ *pH must be adjusted between 9.3 - 9.7
HCL ID: _____ Na2SO3 ID: _____ Buffer Sol'n ID: _____
1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/19/2018 10:17:55AM**

Sample Conditions Checklist

Sample Received at	10:07A
Was your sampler trained?	Yes
Were cooling fans used? If so, were they verified used?	No
Are the cooling fans free of obstructions and working?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (allows freezing to FID or located on ice and reanalyzed later?)	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? (VOC sample sets include EPA8211, EPA824, EPA8260, EPA824, EPA8215 GR0, EPA8021, EPA824, and R04-175)	Yes
Are all samples received appropriately preserved? (Note that metals containers do not require field preservation but lab preservation may delay analysis)	Yes

See Work Order 18CO114 for TB data. SNL 04 April 2018/1630

Samples were outside of the holding temperature range. Jake White notified via email. DWS 4/9/18 140

Analysis Detects Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Laboratory Sample ID: 1800115-01

Client Sample ID: MW-3

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	01	SW6010C	3.2	J	2.0	4.0	1	ug/L

Laboratory Sample ID: 1800115-02

Client Sample ID: MW-5

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW6010C	1.8	J	2.0	4.0	1	ug/L

Laboratory Sample ID: 1800115-03

Client Sample ID: MW-1C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	03	SW6010C	34.8		2.0	4.0	1	ug/L
1,1-Dichloroethane	03	SW8260B	15.4		0.50	1.00	1	ug/L
1,2-Dichlorobenzene	03	SW8260B	0.36	J	0.20	1.00	1	ug/L
1,2-Dichloropropane	03	SW8260B	1.07		0.50	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	4.82		0.40	1.00	1	ug/L
Benzene	03	SW8260B	1.14		0.20	1.00	1	ug/L
Chlorobenzene	03	SW8260B	1.82		0.40	1.00	1	ug/L
Chloroethane	03	SW8260B	3.12		0.40	1.00	1	ug/L
Chloromethane	03	SW8260B	0.47	J	0.50	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	21.8		0.40	1.00	1	ug/L
trans-1,2-Dichloroethylene	03	SW8260B	0.57	J	0.40	1.00	1	ug/L
Trichloroethylene	03	SW8260B	1.58		0.30	1.00	1	ug/L
Vinyl chloride	03	SW8260B	4.88		0.30	0.50	1	ug/L

Analysis Detects Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Laboratory Sample ID: 1800115-04 Client Sample ID: MW-10

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Chloro	04	SW8210C	22.0		2.0	4.0	1	ug/L
1,1-Dichloroethane	04	SW8260B	1.34		0.40	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260B	0.23	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260B	7.20		0.40	1.00	1	ug/L
Benzene	04	SW8260B	1.21		0.30	1.00	1	ug/L
Chlorobenzene	04	SW8260B	2.63		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	15.5		0.40	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.45	J	0.30	1.00	1	ug/L
Vinyl chloride	04	SW8260B	5.94		0.30	0.50	1	ug/L

Laboratory Sample ID: 1800115-05 Client Sample ID: MW-1E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	05	SW8260B	2.73		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	05	SW8260B	1.27		0.40	1.00	1	ug/L
Benzene	05	SW8260B	0.59	J	0.30	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260B	21.9		0.40	1.00	1	ug/L
Trichloroethylene	05	SW8260B	2.97		0.30	1.00	1	ug/L
Vinyl chloride	05	SW8260B	2.44		0.30	0.50	1	ug/L

Analysis Detects Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Laboratory Sample ID: 18D0115-06 Client Sample ID: MW-1F

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	06	SW8260B	1.83		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	06	SW8260B	3.56		0.40	1.00	1	ug/L
Trichloroethylene	06	SW8260B	1.18		0.30	1.00	1	ug/L
Vinyl chloride	06	SW8260B	0.48	J	0.30	0.50	1	ug/L

Laboratory Sample ID: 18D0115-07 Client Sample ID: MW-1D

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	07	SW8260B	3.53		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW8260B	0.47	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8260B	14.0		0.40	1.00	1	ug/L
Trichloroethylene	07	SW8260B	2.18		0.30	1.00	1	ug/L
Vinyl chloride	07	SW8260B	1.00		0.30	0.50	1	ug/L

Laboratory Sample ID: 18D0115-08 Client Sample ID: MW-1H

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	08	SW8260B	1.55		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8260B	7.25		0.40	1.00	1	ug/L
Trichloroethylene	08	SW8260B	1.31		0.30	1.00	1	ug/L
Vinyl chloride	08	SW8260B	0.48	J	0.30	0.50	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1641 Regent Road • Richmond, Virginia 23237 • Tel: (804) 558-8200 Fax: (804) 558-8201

Certificate of Analysis

Final Report

Sample Delivery Group ID: Laurel Valley Corr. 180404

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23230

Date Issued: 4/13/2018 3:24:18PM

Submitted To: Jake White

Client Site ID: Laurel Valley Center Sanitary Landfill (Culpepper)

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group Laurel Valley Corr. 180404. Work orders included in the sample delivery group:

Work Order	Receive Date	Project Number
1800118	4/9/2018 4:18:00PM	21800118.00.02

Ted Coyne

Laboratory Manager

Test Notes

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and turbidity that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's table of certification nor have they been audited for adherence to a reference method or procedure.

The signature on this final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3	18D0115-01	Ground Water	04/03/2018 10:20	04/04/2018 16:16
MW-5	18D0115-02	Ground Water	04/03/2018 09:20	04/04/2018 16:16
MW-1C	18D0115-03	Ground Water	04/03/2018 09:05	04/04/2018 16:16
MW-1D	18D0115-04	Ground Water	04/03/2018 10:50	04/04/2018 16:16
MW-1E	18D0115-05	Ground Water	04/03/2018 10:40	04/04/2018 16:16
MW-1F	18D0115-06	Ground Water	04/04/2018 07:40	04/04/2018 16:16
MW-1G	18D0115-07	Ground Water	04/03/2018 11:00	04/04/2018 16:16
MW-1H	18D0115-08	Ground Water	04/04/2018 07:55	04/04/2018 16:16
MW-1I	18D0115-09	Ground Water	04/03/2018 11:25	04/04/2018 16:16

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1806115-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cadmium	01	7440-50-9	8000-100	04/05/2018 12:50	04/05/2018 14:55	BLD	J	2.0	4.0	1	ug/L	JW
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-03-8	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.70	1.00	1	ug/L	JW
1,1,1-Trichloroethane	01	71-68-8	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.70	1.00	1	ug/L	JW
1,1,2,2-Tetrachloroethane	01	79-34-6	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.40	0.40	1	ug/L	JW
1,1,2-Trichloroethane	01	75-09-5	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.50	1.00	1	ug/L	JW
1,1-Dichloroethane	01	75-34-3	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.40	1.00	1	ug/L	JW
1,1-Dichloroethylene	01	75-35-4	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
1,2-Dichloroethane	01	94-18-4	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.40	1.00	1	ug/L	JW
1,2-Dichlorobenzene	01	95-50-1	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
1,2-Dichloroethane	01	107-06-2	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
1,2-Dichloropropane	01	78-87-6	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
1,4-Dichlorobenzene	01	106-46-7	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.40	1.00	1	ug/L	JW
1,4-Dichlorobenzene	01	78-89-3	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	0.30	1	ug/L	JW
2-Hexanone (MIX)	01	501-75-4	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	0.30	1	ug/L	JW
4-Methyl-2-pentanone (MMP)	01	105-10-1	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	0.30	1	ug/L	JW
Axetone	01	67-64-1	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		7.00	10.0	1	ug/L	JW
Acrylonitrile	01	127-13-1	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		1.70	5.00	1	ug/L	JW
Benzene	01	71-43-2	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
Bromoethoxyethane	01	74-97-9	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.40	1.00	1	ug/L	JW
Bromochloromethane	01	75-27-4	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	0.30	1	ug/L	JW
Bromoforn	01	75-28-2	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
Bromomethane	01	74-83-8	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		0.30	1.00	1	ug/L	JW
Carbon disulfide	01	75-15-0	8160-008	04/05/2018 13:58	04/05/2018 13:58	BLD		1.00	10.0	1	ug/L	JW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1806115-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	01	75-09-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	01	67-69-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.30	1.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	198-49-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,2-Dichloropropene	01	10091-04-0	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	01	128-48-1	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	01	74-95-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-8	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		1.00	1.00	1	ug/L	JDW
Ethylbenzene	01	100-41-4	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.20	1.00	1	ug/L	JDW
Isobutane	01	74-95-4	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		1.70	10.0	1	ug/L	JDW
m-xylene	01	172651-23-1	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.50	2.00	1	ug/L	JDW
Methylene Chloride	01	75-09-2	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		2.00	4.00	1	ug/L	JDW
n-Heptane	01	91-47-6	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.50	1.00	1	ug/L	JDW
Styrene	01	100-42-0	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	01	127-18-4	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	198-49-3	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloropropene	01	10091-05-8	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.30	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	130-67-8	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-04-6	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-85-4	SW82608	04/05/2018 13:58	04/05/2018 13:58	BLOD		0.20	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1806115-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	01	106-25-4	8260-0008	0405/2018 13:58	0405/2018 13:58	BLDD		2.20	10.0	1	ug/L	JCW
Vinyl chloride	01	75-07-4	8260-0008	0405/2018 13:58	0405/2018 13:58	BLDD		0.50	0.50	1	ug/L	JCW
BTEXes, Total	01	1000-20-7	8260-0008	0405/2018 13:58	0405/2018 13:58	BLDD		1.00	3.00	1	ug/L	JCW
Sum: 1,2-Dichloroethane-d4 (Sum)	01	82.8 %	75-120	0405/2018 13:58	0405/2018 13:58							
Sum: 4-Bromodifluoromethane (Sum)	01	83.4 %	75-130	0405/2018 13:58	0405/2018 13:58							
Sum: Dibromodifluoromethane (Sum)	01	93.1 %	80-119	0405/2018 13:58	0405/2018 13:58							
Sum: Toluene-d8 (Sum)	01	96.4 %	85-120	0405/2018 13:58	0405/2018 13:58							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1806115-62

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	02	7440-48-4	8260-100	04/09/2018 12:00	04/09/2018 14:55	2.8	J	2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1804115-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	02	79-00-5	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	02	78-24-2	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	02	78-29-4	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	02	95-18-4	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	95-50-1	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	02	107-06-2	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.90	1.00	1	ug/L	JDW
1,3-Dichloropropane	02	78-87-5	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	02	106-46-7	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
2-Butanone (MIBK)	02	75-70-3	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	02	531-78-8	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	02	109-10-1	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	02	67-64-1	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	02	107-13-1	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	02	71-43-2	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	02	74-87-5	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	02	75-27-4	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	0.90	1	ug/L	JDW
Bromofluoromethane	02	79-25-2	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	1.00	1	ug/L	JDW
Bromomethane	02	74-83-9	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	02	75-16-5	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		1.50	10.0	1	ug/L	JDW
Carbon tetrachloride	02	56-23-5	SW82000	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	02	108-90-7	SW82008	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **1804115-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-05-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	02	67-66-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	02	74-87-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	1.00	1	ug/L	JDW
cis-1,3-Dichloroethylene	02	156-69-2	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	02	10001-01-9	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	02	134-49-1	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	02	74-95-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	02	75-71-8	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		1.00	1.00	1	ug/L	JDW
Ethylbenzene	02	100-41-4	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.20	1.00	1	ug/L	JDW
Isomethane	02	78-88-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		1.70	10.0	1	ug/L	JDW
m-p-Xylene	02	106-42-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	2.00	1	ug/L	JDW
Methyl ethyl ketone	02	78-93-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	02	95-47-8	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	1.00	1	ug/L	JDW
Styrene	02	100-42-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	02	127-18-4	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	02	108-88-2	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	02	156-60-3	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	02	10001-02-8	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	02	110-67-8	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		1.50	6.00	1	ug/L	JDW
Trichloroethylene	02	79-07-6	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	02	75-69-4	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	02	108-05-4	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		3.20	10.0	1	ug/L	JDW
Vinyl chloride	02	75-01-4	SW82600	04/05/2018 14:24	04/05/2018 14:24	BLOD		0.30	0.50	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1806115-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	02	1333-20-7	8265008	04052018 14:24	04052018 14:24	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,3-Dichlorobenzene (Sum)	02		75-130	04052018 14:24	04052018 14:24							
Sum: 4-Bromofluorobenzene (Sum)	02		75-130	04052018 14:24	04052018 14:24							
Sum: 2-Bromofluorobenzene (Sum)	02		85-119	04052018 14:24	04052018 14:24							
Sum: Toluene (Sum)	02		85-130	04052018 14:24	04052018 14:24							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cadmium	03	7440-48-4	8000-100	04/09/2018 12:00	04/09/2018 15:18	04.5		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	630-20-8	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trifluoroethane	02	71-68-8	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrafluoroethane	03	79-34-5	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trifluoroethane	04	79-00-5	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	79-34-3	SW82000	04/05/2018 14:50	04/05/2018 14:50	18.4		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	06	75-35-4	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	07	88-19-4	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	08	85-53-1	SW82000	04/05/2018 14:50	04/05/2018 14:50	0.36	J	0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	09	107-06-3	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.80	1.00	1	ug/L	JDW
1,3-Dichloropropane	09	75-07-5	SW82000	04/05/2018 14:50	04/05/2018 14:50	1.01		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	10	106-46-7	SW82000	04/05/2018 14:50	04/05/2018 14:50	4.82		0.40	1.00	1	ug/L	JDW
1,4-Dioxane (MIX)	11	76-91-3	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		5.00	5.00	1	ug/L	JDW
2-Hexanone (MIX)	12	591-79-8	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MMP)	13	106-16-1	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	14	67-64-1	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	15	107-13-1	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	16	71-43-2	SW82000	04/05/2018 14:50	04/05/2018 14:50	1.12		0.30	1.00	1	ug/L	JDW
Bromoform	17	74-87-5	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	1.00	1	ug/L	JDW
Bromochloromethane	18	76-27-4	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.30	0.80	1	ug/L	JDW
Bromofluoromethane	19	75-28-3	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	1.00	1	ug/L	JDW
Bromomethane	20	74-83-6	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	21	75-15-0	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.50	10.0	1	ug/L	JDW
Carbon tetrachloride	22	56-23-5	SW82000	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	23	108-90-7	SW82000	04/05/2018 14:50	04/05/2018 14:50	1.81		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	01	75-00-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	1.12		0.40	1.00	1	ug/L	JDW
Chloroform	01	67-66-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	0.87	J	0.50	1.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	106-69-2	SW826008	04/05/2018 14:50	04/05/2018 14:50	31.8		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10661-04-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	1.00	1	ug/L	JDW
Dibromochloromethane	01	109-68-1	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	01	74-90-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-6	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.00	1.00	1	ug/L	JDW
Ethylacetylene	01	103-41-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Isobutane	01	74-99-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.70	10.0	1	ug/L	JDW
m,p-Xylenes	01	175004-25-1	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	2.00	1	ug/L	JDW
Isobutylene oxide	01	75-08-7	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	1.00	1	ug/L	JDW
Ethene	01	100-43-5	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.20	1.00	1	ug/L	JDW
Tetrahydrofuran (THF)	01	121-14-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	106-68-0	SW826008	04/05/2018 14:50	04/05/2018 14:50	0.57	J	0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10661-03-8	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	115-07-8	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-07-6	SW826008	04/05/2018 14:50	04/05/2018 14:50	1.58		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-09-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		0.30	1.00	1	ug/L	JDW
Vinyl acetate	01	108-05-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	SW826008	04/05/2018 14:50	04/05/2018 14:50	4.85		0.30	0.50	1	ug/L	JDW
Xylenes, Total	01	1333-20-7	SW826008	04/05/2018 14:50	04/05/2018 14:50	BLOD		1.00	3.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Sum 1,2-Dichloroethane (Sum)	01	65-83-6	79-120	04052018 14:50	04052018 14:50							
Sum 4-Bromofluorobenzene (Sum)	01	68-93-8	79-120	04052018 14:50	04052018 14:50							
Sum 2-Bromo-2-fluorotoluene (Sum)	01	64-01-8	80-119	04052018 14:50	04052018 14:50							
Sum Toluene (Sum)	01	67-63-0	80-120	04052018 14:50	04052018 14:50							

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/1000 Series Methods												
Cadmium	04	7440-48-4	8000-100	04/09/2018 12:00	04/09/2018 15:18	0.0		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1806115-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	630-20-8	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethene	04	71-68-8	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	04	79-34-2	SW82000	04/05/2018 15:16	04/05/2018 15:16	1.54		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	04	75-35-4	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	04	88-19-4	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	04	95-50-1	SW82000	04/05/2018 15:16	04/05/2018 15:16	0.23	J	0.20	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	04	107-06-3	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.80	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	79-07-5	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/05/2018 15:16	04/05/2018 15:16	7.20		0.40	1.00	1	ug/L	JDW
2-Methoxy (MEX)	04	78-93-2	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		5.00	5.00	1	ug/L	JDW
2-Propanone (MEK)	04	69-19-8	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	04	106-16-1	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	04	67-64-1	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	04	107-13-1	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	04	71-43-2	SW82000	04/05/2018 15:16	04/05/2018 15:16	1.21		0.30	1.00	1	ug/L	JDW
Bromochloromethane	04	74-97-6	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	04	75-27-4	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.30	0.50	1	ug/L	JDW
Bromofluoromethane	04	75-25-2	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.80	1.00	1	ug/L	JDW
Bromomethane	04	74-83-6	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	04	75-15-0	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		1.80	50.0	1	ug/L	JDW
Carbon tetrachloride	04	56-23-5	SW82000	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	04	108-90-7	SW82000	04/05/2018 15:16	04/05/2018 15:16	2.80		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-05-3	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	04	67-66-3	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	04	74-87-3	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	1.00	1	ug/L	JDW
cis-1,3-Dichloroethylene	04	100-69-2	SW82600	04/05/2018 15:16	04/05/2018 15:16	FLI		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	04	10061-01-8	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.30	1.00	1	ug/L	JDW
Dibromodichloroethane	04	13466-1	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	04	74-96-3	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	04	75-71-8	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		1.00	1.00	1	ug/L	JDW
Fluoromethane	04	100-41-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.20	1.00	1	ug/L	JDW
Iodomethane	04	74-88-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		1.70	10.0	1	ug/L	JDW
o,p'-DDE	04	17960-12-5	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	04	75-09-2	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	04	95-47-8	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	1.00	1	ug/L	JDW
o-Xylenes	04	100-62-3	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	04	147-18-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	04	100-66-1	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	04	100-60-1	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	04	10061-02-0	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	04	110-67-8	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		1.50	4.00	1	ug/L	JDW
Trichloroethylene	04	79-07-8	SW82600	04/05/2018 15:16	04/05/2018 15:16	GLI	J	0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	04	79-89-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	04	108-05-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	BLOD		0.20	10.0	1	ug/L	JDW
Vinyl chloride	04	75-01-4	SW82600	04/05/2018 15:16	04/05/2018 15:16	GLI		0.30	0.50	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809115-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	04	1210-20-7	SM8200B	04/05/2018 15:18	04/05/2018 15:18	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,1-Dichloroethene (Sum)	04	69-59-6	70-120	04/05/2018 15:18	04/05/2018 15:18							
Sum: 1,1-Dibromoethene (Sum)	04	96-12-8	76-120	04/05/2018 15:18	04/05/2018 15:18							
Sum: 1,1-Dibromoethane (Sum)	04	94-64-0	80-115	04/05/2018 15:18	04/05/2018 15:18							
Sum: Toluene (Sum)	04	97-53-0	80-120	04/05/2018 15:18	04/05/2018 15:18							

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1806115-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	08	744054	8000-100	04/09/2018 12:00	04/09/2018 15:20	BLD		2.0	4.0	1	µg/L	JPV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1806115-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethane	05	71-65-6	SW82000	04/05/2018 15:42	04/05/2018 15:42	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	05	79-34-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	05	78-24-2	SW82005	04/05/2018 15:42	04/05/2018 15:42	1.71		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	05	75-35-4	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	05	88-19-4	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.40	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	05	85-85-1	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	05	107-06-2	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.30	1.00	1	ug/L	JCW
1,2-Dichloroethane	05	78-37-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.80	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/05/2018 15:42	04/05/2018 15:42	1.27		0.40	1.00	1	ug/L	JCW
2-Pentanone (MIX)	05	78-92-3	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.20	0.20	1	ug/L	JCW
2-Pentanone (MIX)	05	99-10-9	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.20	0.20	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	05	109-10-1	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.60	0.60	1	ug/L	JCW
Acetone	05	67-64-1	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		7.50	10.0	1	ug/L	JCW
Amylacetate	05	107-13-1	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		1.70	3.00	1	ug/L	JCW
Benzene	05	71-43-2	SW82005	04/05/2018 15:42	04/05/2018 15:42	0.58	J	0.20	1.00	1	ug/L	JCW
Bromochloroethane	05	74-87-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloroethane	05	79-27-4	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.30	0.50	1	ug/L	JCW
Bromofluorane	05	75-23-2	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.30	1.00	1	ug/L	JCW
Bromochloroethane	05	74-87-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.50	1.00	1	ug/L	JCW
Carbon disulfide	05	75-15-0	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	05	58-23-5	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	05	108-90-7	SW82005	04/05/2018 15:42	04/05/2018 15:42	BL00		0.40	1.00	1	ug/L	JCW

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1806115-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-05-3	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	05	67-66-3	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.40	0.50	1	ug/L	JDW
Dichloromethane	05	74-87-3	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.50	1.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	05	156-88-2	SW82600	04/05/2018 15:42	04/05/2018 15:42	21.8		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	05	10001-04-8	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.30	1.00	1	ug/L	JDW
Dibromochloromethane	05	13466-1	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.50	0.50	1	ug/L	JDW
Bromochloromethane	05	74-93-3	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	05	75-71-8	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		1.00	1.00	1	ug/L	JDW
Ethylacetylene	05	105-41-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.20	1.00	1	ug/L	JDW
Isobutylene	05	74-88-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		1.70	10.0	1	ug/L	JDW
prop-1-yne	05	17600-10-2	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.50	2.00	1	ug/L	JDW
Methylacetylene	05	75-05-2	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		2.00	4.00	1	ug/L	JDW
n-Butane	05	56-47-8	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.50	1.00	1	ug/L	JDW
Diene	05	100-42-5	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	05	147-13-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	05	100-00-2	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	05	156-85-1	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	05	10001-02-6	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.30	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	05	110-87-8	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		1.50	4.00	1	ug/L	JDW
Trichloroethylene	05	79-01-6	SW82600	04/05/2018 15:42	04/05/2018 15:42	2.87		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	05	75-89-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	05	108-05-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	05	75-01-4	SW82600	04/05/2018 15:42	04/05/2018 15:42	2.44		0.30	0.50	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1806115-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Hydrocs, Total	05	1515-20-1	8265/2008	04/05/2018 15:42	04/05/2018 15:42	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,2-Dichloroethane-04 (Sum)	05	84-74-2	79-120	04/05/2018 15:42	04/05/2018 15:42							
Sum: 1,1-Dichloroethene (Sum)	05	75-35-0	79-120	04/05/2018 15:42	04/05/2018 15:42							
Sum: 2-Bromoethane (Sum)	05	106-93-8	85-119	04/05/2018 15:42	04/05/2018 15:42							
Sum: Toluene-05 (Sum)	05	82-66-5	85-120	04/05/2018 15:42	04/05/2018 15:42							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1P

Laboratory Sample ID: 1804115-06

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	06	7440-50-9	8000-100	04/09/2018 12:00	04/09/2018 15:22	BLD		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **1806115-06**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wastewater Organic Compounds by GCMS												
1,1,1-Trichloroethane	06	630-20-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethene	06	71-68-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	06	79-34-5	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	06	79-00-5	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	06	79-34-9	SW82000	04/05/2018 16:08	04/05/2018 16:08	1.00		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	06	75-35-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	06	90-18-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	06	85-53-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	06	107-06-2	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.90	1.00	1	ug/L	JDW
1,2-Dichloroethane	06	79-87-5	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	06	106-46-7	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	1.00	1	ug/L	JDW
2-Butanone (MIBK)	06	78-93-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	06	99-79-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	06	106-15-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	06	67-64-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	06	107-13-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	06	71-43-2	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	06	74-97-5	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	06	75-27-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.30	0.90	1	ug/L	JDW
Bromofluoromethane	06	79-25-2	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.90	1.00	1	ug/L	JDW
Bromomethane	06	74-83-9	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.50	1.00	1	ug/L	JDW
Carbon disulfide	06	75-15-0	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	06	55-23-5	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	06	108-90-7	SW82000	04/05/2018 16:08	04/05/2018 16:08	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **180415-06**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	06	75-05-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	06	67-66-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.40	0.50	1	ug/L	JCW
Chloromethane	06	74-87-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.50	1.00	1	ug/L	JCW
cis-1,3-Dichloroethylene	06	156-69-2	SW82000	04/05/2018 16:08	04/05/2018 16:08	1.86		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	06	10061-01-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.30	1.00	1	ug/L	JCW
Dibromodichloroethane	06	13468-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.50	0.50	1	ug/L	JCW
Dibromomethane	06	74-96-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	06	75-71-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		1.00	1.00	1	ug/L	JCW
Fluoromethane	06	103-41-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.20	1.00	1	ug/L	JCW
Iodomethane	06	74-88-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		1.70	10.0	1	ug/L	JCW
n-py-Pyrene	06	17821-25-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.50	2.00	1	ug/L	JCW
Methylene chloride	06	75-09-2	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	06	95-47-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.50	1.00	1	ug/L	JCW
Oxane	06	100-42-3	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydroethylene (PCE)	06	147-18-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.40	1.00	1	ug/L	JCW
Toluene	06	100-66-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethylene	06	156-60-1	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	06	10061-02-0	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	06	110-67-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		1.10	4.00	1	ug/L	JCW
Trichloroethylene	06	79-01-8	SW82000	04/05/2018 16:08	04/05/2018 16:08	1.15		0.30	1.00	1	ug/L	JCW
Trichlorofluoromethane	06	75-89-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	06	108-05-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	BL00		2.20	10.0	1	ug/L	JCW
Vinyl chloride	06	75-01-4	SW82000	04/05/2018 16:08	04/05/2018 16:08	0.40	J	0.30	0.50	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1804115-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1515-20-1	SW8260B	04/05/2018 16:08	04/05/2018 16:08	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,2-Dichloroethane-d4 (Sum)	08	63-1	79-120	04/05/2018 16:08	04/05/2018 16:08							
Sum: 4-Bromofluorobenzene (Sum)	08	94-3	79-120	04/05/2018 16:08	04/05/2018 16:08							
Sum: Dibromofluorobenzene (Sum)	08	93-0	80-119	04/05/2018 16:08	04/05/2018 16:08							
Sum: Toluene-d8 (Sum)	08	90-0	80-120	04/05/2018 16:08	04/05/2018 16:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1804115-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/1000 Series Methods												
Cobalt	07	75005-6	8000-100	04/09/2018 12:00	04/09/2018 16:24	BLD		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	630-20-8	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethane	07	71-68-8	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	07	79-34-5	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	07	79-00-5	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	07	79-34-3	SW82000	04/05/2018 18:30	04/05/2018 18:30	1.81		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	07	71-67-4	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	07	88-19-4	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	07	85-83-1	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	07	107-06-2	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.30	1.00	1	ug/L	JCW
1,2-Dichloropropane	07	78-67-5	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.80	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	07	106-46-7	SW82000	04/05/2018 18:30	04/05/2018 18:30	0.47	J	0.40	1.00	1	ug/L	JCW
2-Pentanone (MIBK)	07	78-02-2	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.20	0.20	1	ug/L	JCW
2-Hexanone (MIBK)	07	99-19-9	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.20	0.20	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	07	109-10-1	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	0.40	1	ug/L	JCW
Acetone	07	67-64-1	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		7.50	10.0	1	ug/L	JCW
Acrylonitrile	07	107-13-1	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		1.70	3.00	1	ug/L	JCW
Benzene	07	71-43-2	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.20	1.00	1	ug/L	JCW
Bromochloromethane	07	74-97-5	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	07	76-27-4	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.20	0.50	1	ug/L	JCW
Bromofluoromethane	07	79-26-2	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.80	1.00	1	ug/L	JCW
Bromomethane	07	74-83-6	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.50	1.00	1	ug/L	JCW
Carbon disulfide	07	75-15-0	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	07	56-23-5	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	07	106-90-7	SW82000	04/05/2018 18:30	04/05/2018 18:30	BL00		0.40	1.00	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-47

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-05-3	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	07	67-66-3	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.40	0.50	1	ug/L	JCW
Dichloromethane	07	74-87-3	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.50	1.00	1	ug/L	JCW
cis-1,2-Dichloroethylene	07	156-60-2	SW82000	04/05/2018 16:30	04/05/2018 16:30	ND		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	07	10001-04-8	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.30	1.00	1	ug/L	JCW
Dibromodichloroethane	07	13466-1	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.50	0.50	1	ug/L	JCW
Bromochloroethane	07	74-95-3	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	07	75-71-6	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		1.00	1.00	1	ug/L	JCW
Fluoromethane	07	100-41-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.20	1.00	1	ug/L	JCW
Iodomethane	07	74-88-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		1.70	10.0	1	ug/L	JCW
n-py. Pyrene	07	17820-25-1	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.50	2.00	1	ug/L	JCW
Methylene chloride	07	75-09-2	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	07	95-47-6	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.50	1.00	1	ug/L	JCW
o-xylene	07	120-82-3	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	07	141-10-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.40	1.00	1	ug/L	JCW
Toluene	07	100-66-1	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethylene	07	156-60-1	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	07	10001-02-6	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	07	110-87-6	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		1.10	4.00	1	ug/L	JCW
Trichloroethylene	07	79-07-6	SW82000	04/05/2018 16:30	04/05/2018 16:30	2.18		0.30	1.00	1	ug/L	JCW
Trichlorofluoromethane	07	75-89-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	07	108-05-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	BL00		2.20	10.0	1	ug/L	JCW
Vinyl chloride	07	75-01-4	SW82000	04/05/2018 16:30	04/05/2018 16:30	1.00		0.30	0.50	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1806115-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	07	1333-20-1	SM/2008	04/05/2018 16:25	04/05/2018 16:25	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,1-Dichloroethene (Sum)	07	69-74-8	79-120	04/05/2018 16:25	04/05/2018 16:25							
Sum: 1,1-Dibromoethene (Sum)	07	90-15-6	79-120	04/05/2018 16:25	04/05/2018 16:25							
Sum: 1,1-Dibromoethane (Sum)	07	90-15-6	80-119	04/05/2018 16:25	04/05/2018 16:25							
Sum: Toluene (Sum)	07	97-53-0	80-120	04/05/2018 16:25	04/05/2018 16:25							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1804115-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cobalt	08	7440-50-9	8000-100	04/09/2018 12:00	04/09/2018 15:28	BLD		2.0	4.0	1	ug/L	JPV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **1806115-08**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethene	08	71-68-8	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	08	79-00-5	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	08	78-24-2	SW82008	04/05/2018 17:01	04/05/2018 17:01	1.00		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	08	75-35-4	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	08	80-18-4	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	08	85-53-1	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	08	107-06-2	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.90	1.00	1	ug/L	JDW
1,2-Dichloropropane	08	78-67-5	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	08	106-46-7	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
2-Butanone (MIBK)	08	78-93-3	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	08	99-79-8	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	08	106-10-1	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	08	67-64-1	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	08	107-13-1	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	08	71-43-2	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	08	74-97-5	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	08	75-27-4	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.30	0.90	1	ug/L	JDW
Bromofluoromethane	08	78-25-2	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.90	1.00	1	ug/L	JDW
Bromomethane	08	74-83-9	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	1.00	1	ug/L	JDW
Carbon disulfide	08	75-15-0	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	08	50-23-5	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	08	108-90-7	SW82008	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **1804115-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	08	67-66-3	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	08	74-87-3	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	1.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	08	156-69-2	SW82000	04/05/2018 17:01	04/05/2018 17:01	7.25		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	08	10021-04-8	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.30	1.00	1	ug/L	JDW
Dibromochloromethane	08	13468-1	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	08	74-93-3	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	08	75-71-8	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		1.00	1.00	1	ug/L	JDW
Dibutyltin	08	105-41-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.20	1.00	1	ug/L	JDW
Dibutyltin	08	74-88-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		1.70	10.0	1	ug/L	JDW
Di-n-Butyltin	08	178601-25	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	2.00	1	ug/L	JDW
		1										
Methylcyclohexane	08	75-05-2	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		2.00	4.00	1	ug/L	JDW
n-Butane	08	56-47-8	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	1.00	1	ug/L	JDW
Diarsene	08	100-42-3	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	08	147-13-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	08	108-90-2	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	08	156-60-1	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	08	10021-02-6	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	08	110-87-8	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		1.50	4.00	1	ug/L	JDW
Trichloroethylene	08	79-01-8	SW82000	04/05/2018 17:01	04/05/2018 17:01	1.81		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	08	75-89-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	08	108-05-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	BLOD		0.20	10.0	1	ug/L	JDW
Vinyl chloride	08	75-01-4	SW82000	04/05/2018 17:01	04/05/2018 17:01	0.48	J	0.30	0.50	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1804115-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1330-20-7	8265/2008	04/05/2018 17:01	04/05/2018 17:01	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,3-Dichlorobenzene (Sum)	08	62-5-9	79-120	04/05/2018 17:01	04/05/2018 17:01							
Sum: 4-Bromofluorobenzene (Sum)	08	34-8-0	79-120	04/05/2018 17:01	04/05/2018 17:01							
Sum: Dibromofluorobenzene (Sum)	08	92-9-9	86-119	04/05/2018 17:01	04/05/2018 17:01							
Sum: Toluene (Sum)	08	87-7-9	86-120	04/05/2018 17:01	04/05/2018 17:01							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1804115-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/1000 Series Methods												
Cobalt	08	7440-50-9	8000-100	04/09/2018 12:00	04/09/2018 16:28	BLDD		2.0	4.0	1	µg/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1806115-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	08	630-20-8	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trifluoroethane	08	71-68-8	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrafluoroethane	08	79-34-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trifluoroethane	08	79-00-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	08	78-34-3	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	08	79-38-4	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichloropropane	08	96-18-4	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	08	95-50-1	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	08	107-06-2	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.90	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	08	78-87-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.60	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	08	106-46-7	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW
2-Butanone (MIBK)	08	75-55-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	08	521-78-8	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	08	67-63-1	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		7.00	10.0	1	ug/L	JDW
Acrylonitrile	08	107-13-1	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		1.70	5.00	1	ug/L	JDW
Benzene	08	71-43-2	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	08	74-87-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	08	79-27-4	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.30	0.90	1	ug/L	JDW
Bromofluoromethane	08	79-25-2	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.50	1.00	1	ug/L	JDW
Bromomethane	08	74-83-9	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	08	75-16-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		1.50	10.0	1	ug/L	JDW
Carbon tetrachloride	08	56-23-5	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	08	108-90-7	SW826008	04/05/2018 17:27	04/05/2018 17:27	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **180415-09**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	09	75-05-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	09	67-66-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	0.50	1	ug/L	JCW
Chloromethane	09	74-87-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.50	1.00	1	ug/L	JCW
cis-1,3-Dichloroethylene	09	156-69-2	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	09	10061-01-9	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Dichlorodifluoromethane	09	134-49-1	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.50	0.50	1	ug/L	JCW
Dichloromethane	09	74-95-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Dichloromethylmethane	09	75-71-8	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		1.00	1.00	1	ug/L	JCW
Ethylbenzene	09	100-41-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Isomethane	09	74-88-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		1.70	10.0	1	ug/L	JCW
m-p-Xylene	09	119601-79	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.50	2.00	1	ug/L	JCW
Methylcyclohexane	09	75-09-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	09	95-47-8	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Stilbene	09	150-43-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Tetrafluoroethylene (PCE)	09	127-18-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	1.00	1	ug/L	JCW
Toluene	09	108-88-2	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethylene	09	156-60-3	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	09	10061-02-8	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	09	110-67-8	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		1.10	0.50	1	ug/L	JCW
Trichloroethylene	09	79-01-6	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Trichlorofluoromethane	09	75-89-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	09	108-20-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		2.20	10.0	1	ug/L	JCW
Vinyl chloride	09	75-01-4	SW826008	04/05/2018 17:29	04/05/2018 17:27	BL00		0.20	0.50	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1806115-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	08	1333-20-1	SM/2008	04/05/2018 17:27	04/05/2018 17:27	BLDD		1.00	3.00	1	ug/L	JTW
Sum: 1,3-Dichlorobenzene-d4 (Sum)	08	68-12-0	79-120	04/05/2018 17:27	04/05/2018 17:27							
Sum: 4-Bromofluorobenzene (Sum)	08	68-12-0	79-120	04/05/2018 17:27	04/05/2018 17:27							
Sum: 2-Bromofluorobenzene (Sum)	08	68-12-0	80-119	04/05/2018 17:27	04/05/2018 17:27							
Sum: Toluene-d8 (Sum)	08	68-12-0	80-120	04/05/2018 17:27	04/05/2018 17:27							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Method (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOG	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
Batch 8800115 - EPA208.2/3.8										
Blank (8800115-BLKT)										
Codist	BLOD	4.8	ug/L							
LCS (8800115-881)										
Codist	50	4.8	ug/L	50		119	80-120			
LCS Dup (8800115-882)										
Codist	120	4.8	ug/L	50		104	80-120	5.71	20	
Matrix Spike (8800115-883)										
					Source: 1800164-01					
Codist	525	4.8	ug/L	500	BLOD	105	75-125			
Matrix Spike (8800115-884)										
					Source: 1800164-01					
Codist	500	4.8	ug/L	500	BLOD	108	75-125			
Matrix Spike Dup (8800115-885)										
					Source: 1800164-01					
Codist	334	4.8	ug/L	500	BLOD	107	75-125	0.918	20	
Matrix Spike Dup (8800115-886)										
					Source: 1800164-01					
Codist	502	4.8	ug/L	500	BLOD	112	75-125	5.80	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8900181 - 8900188

Blank (8900181-8900188)	Filtered & Analyzed 04/09/2018									
1,1,2-Trichloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dibromochloroethane	BL00	1.00	ug/L							
1,2-Dichloropropane	BL00	1.00	ug/L							
1,2-Dichloropropane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dibromopropane	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
1-Hexanone (MIX)	BL00	5.00	ug/L							
2-Hexanone (MIX)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acrylonitrile	BL00	5.00	ug/L							
Benzene	BL00	1.00	ug/L							
Bromochloromethane	BL00	1.00	ug/L							
Bromoethane	BL00	0.50	ug/L							
Bromobenzene	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8902181 - 8902188										
Batch (8902181-8902188)										
Prepared & Analyzed: 04/09/2018										
Chlorobenzene	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,3-Dichloropropene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
(E)-Hexene	BL00	1.00	ug/L							
Isobutylene	BL00	10.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methylal chloride	BL00	4.00	ug/L							
o-Xylene	BL00	1.00	ug/L							
Oxane	BL00	1.00	ug/L							
Trichloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Tetrahydrofuran	BL00	1.00	ug/L							
Tetrahydrofuran	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	2.00	ug/L							
Sum 1,2-Dichloroethane-ol (Sum)	48.0		ug/L	50.0		62.1	70-100			
Sum 4-Bromobromobenzene (Sum)	48.4		ug/L	50.0		62.8	70-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatle Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limits	RPD	RPD Limit	Qual
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Batch #000181 - 000008

Blank (000181-0001)			Prepared & Analyzed 04/05/2018							
Sum Chloroformethane (Sum)	45.8		ug/L	50.0		91.8	80-118			
Sum Bromoform (Sum)	48.3		ug/L	50.0		98.7	80-120			
LC8 (000181-0001)			Prepared & Analyzed 04/05/2018							
1,1,1-Trichloroethane	50.8	0.4	ug/L	50.0		101	80-130			
1,1,1-Trichloroethene	47.5	1	ug/L	50.0		95.0	85-130			
1,1,2-Trichloroethane	44.7	0.4	ug/L	50.0		99.4	85-130			
1,1,2-Trichloroethene	48.8	1	ug/L	50.0		97.6	75-125			
1,1-Dichloroethane	47.0	1	ug/L	50.0		94.6	70-130			
1,1-Dichloroethylene	44.7	1	ug/L	50.0		99.4	70-130			
1,2-Dichloropropane	45.3	1	ug/L	50.0		95.4	75-125			
1,2-Dichlorobenzene	55.2	1	ug/L	50.0		100	70-120			
1,2-Dichloroethane	40.4	1	ug/L	50.0		90.8	70-130			
1,2-Dichloroethene	47.8	1	ug/L	50.0		95.1	75-125			
1,4-Dichlorobenzene	44.4	1	ug/L	50.0		94.6	75-125			
2-Chloroethane (MCA)	24.0	0	ug/L	50.0		72.6	30-100			
2-Hydroxyethane (MEA)	38.7	0	ug/L	50.0		77.0	50-130			
4-Methyl-2-pentanone (MIBK)	38.8	0	ug/L	50.0		79.2	50-130			
Acetone	34.3	10	ug/L	50.0		78.7	40-140			
Acrylonitrile	190	0	ug/L	200		64.2	70-130			
Benzene	47.1	1	ug/L	50.0		94.2	60-120			
Bromoformethane	51.8	1	ug/L	50.0		103	60-130			
Bromodichloromethane	51.8	0.8	ug/L	50.0		104	75-130			
Bromobenzene	51.1	1	ug/L	50.0		102	70-130			
Bromomethane	42.2	1	ug/L	50.0		84.4	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
LOQ (8000181-800)										
Prepared & Analyzed: 04/09/2018										
Carbon disulfide	82.4	10	ug/L	50.0		50.0	35-100			
Carbon tetrachloride	52.1	1	ug/L	50.0		104	80-140			
Chlorobenzene	48.5	1	ug/L	50.0		97.0	80-120			
Chloroethane	41.0	1	ug/L	50.0		82.0	60-120			
Chloroform	40.7	0.5	ug/L	50.0		81.4	65-130			
Chloromethane	41.4	1	ug/L	50.0		82.8	60-120			
cis-1,3-Dichloroethylene	43.0	1	ug/L	50.0		86.0	70-120			
cis-1,3-Dichloropropene	45.4	1	ug/L	50.0		90.8	70-130			
Bromo-chloromethane	51.8	0.5	ug/L	50.0		104	80-130			
Dibromomethane	48.8	1	ug/L	50.0		97.6	70-120			
Dichlorodifluoromethane	41.3	1	ug/L	50.0		82.7	50-100			
Ethylbenzene	50.1	1	ug/L	50.0		101	70-120			
m,p-Xylenes	100	2	ug/L	100		100	70-130			
Methylcyclohexane	42.4	4	ug/L	50.0		84.8	50-140			
n-Butane	48.8	1	ug/L	50.0		97.6	80-120			
Diene	50.2	1	ug/L	50.0		100	60-130			
Trichloroethylene (PCE)	79.6	1	ug/L	50.0		140	40-100			
Toluene	50.0	1	ug/L	50.0		100	70-120			
trans-1,3-Dichloroethylene	44.7	1	ug/L	50.0		89.4	60-140			
trans-1,3-Dichloropropene	48.2	1	ug/L	50.0		96.4	60-140			
Trichloroethylene	48.8	1	ug/L	50.0		97.6	70-120			
Tetrafluoroethylene	42.7	1	ug/L	50.0		85.4	60-140			
Vinyl chloride	40.0	0.5	ug/L	50.0		80.0	50-140			
Sum 1,3-Dichloroethane-ol (Sum)	48.1		ug/L	50.0		96.1	70-120			
Sum 4-Bromochloroethane (Sum)	48.7		ug/L	50.0		97.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802188

LOQ (M00141-89)			Prepared & Analyzed 04/05/2018							
Sum Chloroformethane (Sum)	46.2		ug/L	50.0		92.4	80-118			
Sum Toluene-ol (Sum)	46.6		ug/L	50.0		93.2	85-120			
Matrix Spike (M00141-89)			Source: 180218-01 Prepared & Analyzed 04/05/2018							
1,1,2-Trichloroethane	48.8	0.4	ug/L	50.0	BL00	97.6	80-130			
1,1,1-Trichloroethane	45.1	1	ug/L	50.0	BL05	90.2	85-130			
1,1,2,2-Tetrachloroethane	44.2	0.4	ug/L	50.0	BL00	88.4	85-130			
1,1,2-Dichloroethane	45.8	1	ug/L	50.0	BL00	91.6	75-125			
1,1-Dichloroethane	54.0	1	ug/L	50.0	4.87	91.7	70-130			
1,1-Dichloroethylene	45.8	1	ug/L	50.0	BL00	91.7	70-130			
1,2-Dichloropropane	42.0	1	ug/L	50.0	BL00	84.0	75-125			
1,2-Dichlorobenzene	49.8	1	ug/L	50.0	8.29	99.2	70-120			
1,2-Dichloroethane	50.8	1	ug/L	50.0	BL00	76.7	70-130			
1,2-Dichloropropane	44.4	1	ug/L	50.0	BL00	87.7	75-125			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0	4.89	99.2	70-125			
2-Chloroethane (M0)	21.8	0	ug/L	50.0	BL00	63.6	30-100			
2-Propanone (M0)	50.8	0	ug/L	50.0	BL00	73.6	50-150			
4-Methyl-2-pentanone (M0)	28.2	0	ug/L	50.0	BL00	79.8	50-130			
Acetone	50.0	10	ug/L	50.0	BL00	60.0	40-140			
Acrylonitrile	100	0	ug/L	200	BL00	97.8	70-130			
Benzene	48.7	1	ug/L	50.0	1.87	93.4	60-120			
Bromochloromethane	46.1	1	ug/L	50.0	BL00	92.2	80-130			
Bromoethane	44.2	0.8	ug/L	50.0	BL00	88.4	75-120			
Bromobenzene	48.1	1	ug/L	50.0	BL00	96.2	70-130			
Bromomethane	50.8	1	ug/L	50.0	BL00	79.2	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: 8002181 - 8002208										
Main: Spike (8002181-818)										
Source: 1802178-81 Prepared & Analyzed: 04/03/2018										
Carbon disulfide	42.4	10	ug/L	50.0	BL00	54.8	35-100			
Carbon tetrachloride	53.7	1	ug/L	50.0	BL00	107	60-140			
Chlorobenzene	49.8	1	ug/L	50.0	2.89	64.0	50-120			
Chloroethane	42.4	1	ug/L	50.0	2.21	61.0	50-120			
Chloroform	42.1	0.5	ug/L	50.0	BL00	69.3	50-120			
1,1-Dichloroethane	49.0	1	ug/L	50.0	0.09	78.8	50-120			
o-1,3-Dichlorobenzene	52.2	1	ug/L	50.0	9.73	64.8	70-120			
m-1,3-Dichlorobenzene	42.1	1	ug/L	50.0	BL00	64.2	70-120			
Bromo-chloroethane	49.8	0.5	ug/L	50.0	BL00	69.8	50-120			
Dibromochloroethane	45.0	1	ug/L	50.0	BL00	61.8	70-120			
Dichlorodifluoromethane	42.9	1	ug/L	50.0	BL00	69.7	35-100			
Ethylbenzene	44.9	1	ug/L	50.0	BL00	67.8	70-120			
m,p-Xylenes	54.0	2	ug/L	100	BL00	69.8	70-120			
Methyl ethyl ketone	41.3	4	ug/L	50.0	BL00	61.2	50-120			
n-Butane	47.4	1	ug/L	50.0	BL00	64.8	50-120			
Diethyl ether	47.7	1	ug/L	50.0	BL00	65.8	50-120			
Tetrahydrofuran (THF)	70.4	1	ug/L	100	BL00	140	40-100			
Toluene	66.4	1	ug/L	50.0	BL00	66.4	70-120			
trans-1,3-Dichlorobenzene	44.3	1	ug/L	50.0	0.40	67.7	50-140			
trans-1,3-Dichloropropene	48.0	1	ug/L	50.0	BL00	61.8	50-140			
Trichlorobenzene	47.5	1	ug/L	50.0	1.33	62.3	70-120			
Tribromofluoromethane	44.7	1	ug/L	50.0	BL00	66.3	50-140			
Vinyl chloride	46.2	0.5	ug/L	50.0	2.90	69.7	50-140			
Sum 1,3-Dichlorobenzene-ol (Sum)	40.8		ug/L	50.0		61.8	70-120			
Sum 4-Bromochlorobenzene (Sum)	47.9		ug/L	50.0		62.8	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1802181 - 1802188										
Matrix Spike (1802181-181)										
Source: 180218-01 Prepared & Analyzed: 04/09/2018										
Sum Chloroformethane (Sum)	47.5		ug/L	50.0		95.0	90-110			
Sum Toluene-01 (Sum)	48.8		ug/L	50.0		97.7	85-120			
Matrix Spike Dup (1802181-182)										
Source: 180218-01 Prepared & Analyzed: 04/09/2018										
1,1,2-Trichloroethane	44.7	0.4	ug/L	50.0	BLOD	89.5	90-130	0.69	30	
1,1,1-Trichloroethane	35.6	1	ug/L	50.0	BLOD	79.2	65-130	19.4	30	
1,1,2,2-Tetrachloroethane	41.8	0.4	ug/L	90.0	BLOD	83.5	65-130	5.70	30	
1,1,2-Dichloroethane	41.2	1	ug/L	50.0	BLOD	82.5	75-125	12.6	30	
1,1-Dichloroethane	44.3	1	ug/L	90.0	8.67	71.1	70-135	20.9	30	
1,1-Dichloroethylene	37.6	1	ug/L	50.0	BLOD	75.1	70-130	19.9	30	
1,2-Dichloropropane	30.3	1	ug/L	50.0	BLOD	76.6	75-125	7.63	30	
1,2-Dichlorobenzene	45.8	1	ug/L	50.0	0.29	91.1	70-120	8.46	30	
1,2-Dichloroethane	31.4	1	ug/L	50.0	BLOD	61.9	70-130	21.1	30	M
1,2-Dichloroethane	38.9	1	ug/L	50.0	BLOD	78.7	75-125	13.2	30	
1,4-Dichlorobenzene	48.1	1	ug/L	90.0	4.85	88.6	75-125	11.4	30	
2-Chlorotoluene (MIX)	29.3	0	ug/L	50.0	BLOD	59.0	30-150	7.71	30	
2-Hexanone (MIX)	34.8	0	ug/L	50.0	BLOD	69.6	55-130	5.66	30	
4-Methyl-2-pentanone (MIX)	30.0	0	ug/L	50.0	BLOD	79.0	90-130	11.8	30	
Acetone	36.9	10	ug/L	50.0	BLOD	73.8	40-140	11.3	30	
Acrylonitrile	191	0	ug/L	200	BLOD	95.4	30-130	11.4	30	M
Benzene	42.8	1	ug/L	90.0	1.87	81.4	90-120	13.4	30	
Bromochloromethane	42.3	1	ug/L	90.0	BLOD	81.0	80-130	19.2	30	
Bromodichloromethane	41.0	0.8	ug/L	90.0	BLOD	82.1	75-120	18.2	30	
Bromobenzene	48.7	1	ug/L	90.0	BLOD	93.4	70-130	5.05	30	
Bromomethane	33.3	1	ug/L	90.0	BLOD	88.8	30-140	17.2	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8800181 - 8900008										
Main: Spike Drop (8800181-8900008)										
Source: 180219-01 Project & Analyzed: 04/09/2018										
Carbon disulfide	34.4	10	ug/L	50.0	54.00	55.4	25-100	20.0	30	
Carbon tetrachloride	44.7	1	ug/L	50.0	54.00	55.0	50-140	15.1	30	
Chlorobenzene	45.8	1	ug/L	50.0	2.89	55.4	50-120	8.28	30	
Chloroethane	34.7	1	ug/L	50.0	2.21	44.9	50-120	20.0	30	
Chloroform	34.0	0.5	ug/L	50.0	54.00	55.6	50-120	19.0	30	
Chloroethane	21.8	1	ug/L	50.0	0.59	52.0	50-120	22.8	30	
cis-1,2-Dichloroethylene	44.0	1	ug/L	50.0	9.73	55.0	70-120	17.1	30	W
cis-1,2-Dichloropropane	39.2	1	ug/L	50.0	54.00	51.7	70-120	17.4	30	
Bromo-chloroethane	45.8	0.5	ug/L	50.0	54.00	57.1	50-120	13.4	30	
Dibromochloroethane	34.0	1	ug/L	50.0	54.00	77.2	70-120	17.4	30	
Dichlorodifluoroethane	31.3	1	ug/L	50.0	54.00	55.8	30-100	25.1	30	
Ethylbenzene	41.8	1	ug/L	50.0	54.00	57.2	70-120	17.3	30	
m,p-Xylenes	57.1	2	ug/L	100	54.00	57.1	70-120	9.40	30	
Methyl ethyl ketone	35.3	4	ug/L	50.0	54.00	59.2	30-120	10.6	30	
n-Heptane	42.8	1	ug/L	50.0	54.00	55.0	50-120	10.7	30	
Styrene	43.3	1	ug/L	50.0	54.00	55.6	50-120	9.81	30	
Tetrahydrofuran (THF)	54.0	1	ug/L	50.0	54.00	1.0	40-100	5.70	30	
Toluene	45.6	1	ug/L	50.0	54.00	57.0	70-120	10.6	30	
trans-1,2-Dichloroethylene	37.1	1	ug/L	50.0	0.40	73.0	50-140	17.7	30	
trans-1,2-Dichloropropane	39.5	1	ug/L	50.0	54.00	79.0	50-140	14.2	30	
Trichloroethylene	43.2	1	ug/L	50.0	1.30	53.6	70-120	9.29	30	
Tetrahydrofuran	34.2	1	ug/L	50.0	54.00	73.0	50-140	21.0	30	
Vinyl chloride	34.7	0.5	ug/L	50.0	2.90	57.4	50-140	23.0	30	
Sum 1,2-Dichloroethane-ol (Sum)	43.2		ug/L	50.0		55.0	70-120			
Sum 4-Bromochloroethane (Sum)	41.8		ug/L	50.0		53.6	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	------

Batch: 1804181 - 1804188

Matrix Spike ID# (1804181-1804188)	Source: 1804181-181	Prepared & Analyzed: 04/09/2018			
Sum: Chloroform/methane (Sum)	47.8	ng/L	50.0	85.8	80-118
Sum: Toluene-ethyl (Sum)	47.3	ng/L	50.0	94.6	80-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Tested by EPA 8000/7000 Series Methods)					
18D0115-01	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-02	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-03	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-04	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-05	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-06	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-07	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-08	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
18D0115-09	50.0 mL / 50.0 mL	SW8210C	88C0108	88C0108	AD80001
Volatiles Organics (Compounds by GCMS)					
18D0115-01	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-02	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-03	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-04	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-05	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-06	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-07	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-08	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012
18D0115-09	5.00 mL / 5.00 mL	SW8260B	88C0161	88C0149	AD80012

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
SWR010C in Non-Potable Water	
Cobalt	VELAP/WVDEP
SWR020B in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP/WVDEP
1,1,1-Trichloroethane	NC,VELAP/WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP/WVDEP
1,1,2-Trichloroethane	NC,VELAP/WVDEP
1,1-Dichloroethane	NC,VELAP/WVDEP
1,1-Dichloroethylene	NC,VELAP/WVDEP
1,2,3-Trichloropropane	NC,VELAP/WVDEP
1,2-Dichloropropane	NC,VELAP/WVDEP
1,2-Dichloroethane	NC,VELAP/WVDEP
1,3-Dichloropropane	NC,VELAP/WVDEP
1,4-Dichlorobenzene	NC,VELAP/WVDEP
2-Butanone (MEK)	NC,VELAP/WVDEP
2-Hexanone (MEK)	NC,VELAP/WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP/WVDEP
Acetone	NC,VELAP/WVDEP
Acrylonitrile	NC,VELAP/WVDEP
Benzene	NC,VELAP/WVDEP
Bromochloromethane	NC,VELAP/WVDEP
Bromodichloromethane	NC,VELAP/WVDEP
Bromoflume	NC,VELAP/WVDEP
Bromomethane	NC,VELAP/WVDEP
Carbon disulfide	NC,VELAP/WVDEP
Carbon tetrachloride	NC,VELAP/WVDEP
Chlorobenzene	NC,VELAP/WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Certified Analyses included in this Report

Analysis	Certifications
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Isobutylene	NC, VELAP, WYDEP
m-Xylene	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP
Styrene	NC, VELAP, WYDEP
Tetrachloroethylene (PCE)	NC, VELAP, WYDEP
Toluene	NC, VELAP, WYDEP
trans-1,2-Dichloroethylene	NC, VELAP, WYDEP
trans-1,3-Dichloropropene	NC, VELAP, WYDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WYDEP
Trichloroethylene	NC, VELAP, WYDEP
Trichlorofluoromethane	NC, VELAP, WYDEP
Vinyl acetate	NC, VELAP, WYDEP
Vinyl chloride	NC, VELAP, WYDEP
Xylenes, Total	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
 Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Code	Description	Cert Number	Expires
MDOH	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2018
VELAP Certificate #4337	NELAC-Virginia Certificate #W011	480021	06/14/2018
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpepper)
Submitted To: Jake White

Date Issued: 4/13/2018 3:24:15PM

Qualifiers and Definitions

- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits

- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLND Below Limit of Detection
- LOQ Limit of Quantitation
- SP Spiked Sample
- TC Tentatively Identified Compounds are compounds that are identified by comparing the sample mass spectral pattern with the NIST spectral library. A TC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1248, 1221, 1222, 1246, 1254, 1260, 1242, and 1268.



1941 REYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804)358-8297 FAX

Date of Custody Form: 01/2011
 Rev. 1.0
 Effective: Feb 14, 2014

CHAIN OF CUSTODY

PAGE 1 of 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Coltaper Environmental Services	PROJECT NAME/Quote #: LYCCLP Corrective Action Well
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Coltaper)
ADDRESS: 1604 Dewby Lane, Richmond, VA 23226	INVOICE ADDRESS: 191 29th Street West, Suite 101, Colchester, VA 22921	PROJECT NUMBER: Job No. 2180019.00.02
PHONE #: (804) 358-8295	INVOICE PHONE #: (804) 727-2808	P.O. #:
FAX #: (804) 358-8292	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *J. White* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: **10 Day(s)**

Matrix Codes: **WW**-Waste Water/**SW**-Storm Water **GW**-Ground Water **DW**-Drinking Water **S**-Soils/Sediment **OP**-Organic Air **SP**-Sludge **OT**-Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
											5.14 VOC's-8260 + dichloromethane (HCL)	Naphthalene-8260 (HCL)	Cobalt (HCL)	Mercury (HCL)	Urate (HCL)	Alkalinity / Chloride / NO3 Sulfate	Mercury (HCL)		Sulfate (NaOH + Zn)
1) BW-3	X					4/23/18	10:00		2	1	X	X	X	X	X	X	X	
2) BW-5	X						09:00		2	1	X	X	X	X	X	X	X	
3) BW-16	X						09:00		2	1	X	X	X	X	X	X	X	
4) BW-10	X						10:00		2	1	X	X	X	X	X	X	X	
5) BW-1E	X						10:00		2	1	X	X	X	X	X	X	X	
6) BW-1F	X					4/23/18	09:00		2	1	X	X	X	X	X	X	X	
7) BW-1G	X					4/23/18	10:00		2	1	X	X	X	X	X	X	X	
8) BW-1H	X					4/23/18	09:00		2	1	X	X	X	X	X	X	X	
9) BW-1I	X					4/23/18	11:15		2	1	X	X	X	X	X	X	X	

804 358 8294

LAB USE ONLY COOLER TEMP: 11.1 °C

LaBella Associates, 18D0115
 Laurel Valley Corrective Action We
 Recd: 04/04/2018 Dwn: 04/18/2018



Sample Preservation Log

Sample Preservation Log
 Form # F1301
 Rev # 8.0
 Effective Mar 20, 2019
 Page 1 of 1

Order ID: 18D0115

Date Performed: 04/04/19

Analyst Performing Check: RLS

Sample ID	Q	Metals		Cyanide		Sulfide		Ammonia		TDS		Phos, Tot		NO3-N/NO2		DBP		Pesticide (see notes)		SVOC (see notes)		CrVI		Fluoride (see notes)			
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
01	A	X																									
02	A	X																									
03	A	X																									
04	A	A																									
05	A	X																									
06	A	X																									
07	A	X																									
08	A	X																									
09	A	X																									

NaOH ID: _____ HNO3 ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 * pH must be adjusted between 9.3 - 9.7
 H2SO4 ID: _____ Na2S2O3 ID: _____ Buffer Sol'n ID: _____
 HCL ID: _____ Na2SO3 ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpepper)**
 Submitted To: **Jake White**

Date Issued: **4/13/2018 3:24:15PM**

Sample Conditions Checklist

Sample Receiving Log	Yes
Has each sample labeled?	Yes
Have labels been read? If so, were they entered into?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing for VOC or recorded on log and recently later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? (VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA8021, EPA8204, and R04-175)	Yes
Are all samples received appropriately preserved? (Note that metals containers do not require field preservation but lab preservation may delay analysis)	Yes

For trip blank data, see work order #1802114, DWS 4/4/18 1650

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Laboratory Sample ID: 1858114-01 Client Sample ID: Equipment Blank

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Thallium	01	82600A	1.30	J	1.00	2.00	1	ug/L

Laboratory Sample ID: 1858114-02 Client Sample ID: Field Blank

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Toluene	02	SW8260B	0.68	J	0.40	1.00	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID 1809114

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 4, 2018 16:16
Date Issued: April 18, 2018 16:07
Project Number: 2180019.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/04/2018 16:16. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Coyne
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Equipment Blank	1805714-01	Ground Water	04/04/2018 10:25	04/04/2018 16:16
Field Blank	1805714-02	Ground Water	04/04/2018 10:15	04/04/2018 16:16
Trip Blank	1805714-03	Ground Water	03/19/2018 13:05	04/04/2018 16:16

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		5.0	10.0	1	ug/L	JW
Arsenic	01	7440-39-2	8000/7000A	04/09/2018 12:00	04/11/2018 16:42	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-3	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Beryllium	01	7440-41-7	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Cadmium	01	7440-43-9	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Cobalt	01	7440-48-4	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Chromium	01	7440-47-3	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		4.0	10.0	1	ug/L	JW
Copper	01	7440-50-8	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Manganese	01	7439-96-5	8000/7000	04/10/2018 08:38	04/10/2018 10:21	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Lead	01	7439-92-1	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		0.5	10.0	1	ug/L	JW
Antimony	01	7440-35-0	8000/7000A	04/09/2018 12:00	04/11/2018 16:42	BL00		1.00	5.00	1	ug/L	BCV
Bismuth	01	7782-49-2	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		40.0	50.0	1	ug/L	JW
Tin	01	7440-31-0	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		20.0	20.0	1	ug/L	JW
Thallium	01	7440-28-4	8000/7000A	04/09/2018 12:00	04/11/2018 16:42	1.00	J	1.00	2.00	1	ug/L	BCV
Vanadium	01	7440-02-0	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Zinc	01	7440-66-5	8000/7000	04/09/2018 12:00	04/09/2018 14:48	BL00		10.0	10.0	1	ug/L	JW
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	830-20-8	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.50	0.40	1	ug/L	JW
1,1,1-Trifluoroethane	01	71-55-8	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.70	1.00	1	ug/L	JW
1,1,2,2-Tetrafluoroethane	01	78-34-0	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.40	0.40	1	ug/L	JW
1,1,2-Difluoroethane	01	78-00-9	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.50	1.00	1	ug/L	JW
1,1-Dichloroethane	01	75-34-3	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.40	1.00	1	ug/L	JW
1,1-Dichloroethylene	01	75-35-4	8000/2000	04/09/2018 12:00	04/09/2018 12:00	BL00		0.30	1.00	1	ug/L	JW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1-Dichloroethane	01	585-89-8	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	01	84-18-4	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	01	120-82-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	01	85-50-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloroethane	01	107-68-2	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	01	78-67-9	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	01	94-73-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	01	142-28-3	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dioxane	01	102-68-7	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,1-Dichloroethane	01	989-20-7	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	2.00	1	ug/L	JCW
2-Butanone (MEK)	01	75-97-5	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
2-Pentanone (MIBK)	01	321-75-6	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
n-Butyl 2-pentanone (nBEPK)	01	105-10-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
Acetone	01	67-64-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	01	75-05-6	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.50	10.0	1	ug/L	JCW
Acrolein	01	107-03-8	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.10	10.0	1	ug/L	JCW
Acrylonitrile	01	107-13-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.70	5.00	1	ug/L	JCW
Allyl chloride	01	107-05-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.80	1.00	1	ug/L	JCW
Benzene	01	71-43-2	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
Bromochloromethane	01	74-87-6	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	01	75-27-4	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	0.20	1	ug/L	JCW
Bromofluoromethane	01	75-26-3	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.50	1.00	1	ug/L	JCW
Bromomethane	01	74-83-9	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
Carbon disulfide	01	75-15-0	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.00	10.0	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	01	75-09-3	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	01	67-68-3	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
Chloroacene	01	109-89-8	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.60	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	106-69-2	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10061-01-5	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Chloroacetylene	01	129-49-1	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	0.50	1	ug/L	JDW
Chloroacetonitrile	01	78-96-3	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-6	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.00	1.00	1	ug/L	JDW
1,1-Difluoroethane	01	67-03-2	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	5.00	1	ug/L	JDW
1,1,1-Trifluoroethane	01	100-41-4	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Fluorochloroethane	01	67-66-3	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.60	0.60	1	ug/L	JDW
Isobutylene	01	74464	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	01	76-83-1	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		18.0	40.0	1	ug/L	JDW
o-Xylene	01	17005-23-1	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	2.00	1	ug/L	JDW
Methacrylonitrile	01	126-98-7	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	01	95-62-8	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.80	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		2.00	4.00	1	ug/L	JDW
p-Xylene	01	95-47-6	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
Propionitrile	01	107-12-0	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.50	40.0	1	ug/L	JDW
Styrene	01	100-42-0	SW82608	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-0	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10021-02-8	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	119-27-9	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-01-6	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-69-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	105-65-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-07-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-1	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-ol (Sum)	01	91.9 %	79-120	04/05/2018 12:39	04/05/2018 12:39							
Sum: 4-bromofluorobenzene (Sum)	01	94.4 %	79-120	04/05/2018 12:39	04/05/2018 12:39							
Sum: Dichlorofluoromethane (Sum)	01	83.8 %	80-119	04/05/2018 12:39	04/05/2018 12:39							
Sum: Toluene-ol (Sum)	01	86.5 %	85-130	04/05/2018 12:39	04/05/2018 12:39							

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Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1809114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenic/Alkyl Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
1,2,5-Trichlorobenzene	01	95-95-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.88	9.30	1	ug/L	SKJ
1,3-Dichlorobenzene	01	95-95-9	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.60	2.66	1	ug/L	SKJ
1,4-Naphthoquinone	01	135-19-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
1-Naphthylene	01	124-92-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
1,2,4,5-Tetrahydroxybenzene	01	94-90-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2,4,6-Trichlorophenol	01	95-95-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2,4,6-Trichlorophenol	01	95-95-2	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
1,4-Dimethoxybenzene	01	120-83-2	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.28	10.0	1	ug/L	SKJ
2,4-Dimethylphenol	01	105-67-8	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		0.83	0.83	1	ug/L	SKJ
2,4-Dinitrophenol	01	81-26-6	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		0.51	01.2	1	ug/L	SKJ
2,4-Dinitrotoluene	01	121-14-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2,6-Dinitrophenol	01	87-62-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2,6-Dinitrotoluene	01	906-20-2	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2-Acetylnaphthalene	01	5346-1	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		3.66	3.66	1	ug/L	SKJ
2-Chloronaphthalene	01	91-58-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2-Chlorophenol	01	95-57-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2-Methylnaphthalene	01	91-07-6	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
2-Naphthylene	01	91-58-6	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
2-Nitrobenzene	01	95-79-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKJ
2-Nitrophenol	01	95-75-5	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ
2,7-Dinitrobenzidine	01	81-94-1	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		4.26	10.6	1	ug/L	SKJ
2,7-Dinitrobenzidine	01	116-93-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.86	2.86	1	ug/L	SKJ
3-Methyltoluene	01	95-49-5	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.90	10.0	1	ug/L	SKJ

Certificate of Analysis

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Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	01	99-09-2	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	01	934-02-1	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Aminodiphenyl	01	93-87-1	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Bromophenyl phenyl ether	01	101-85-1	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Chlorobenzene	01	106-47-8	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	01	3006-13-2	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Fluorobenzene	01	100-01-8	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Nitrophenol	01	100-02-7	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
5-Nitro-1-naphthol	01	89-85-8	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	01	87-87-8	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
Acenaphthene	01	85-13-5	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthylene	01	105-90-8	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthone	01	98-09-2	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
Anthracene	01	130-13-7	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a) anthracene	01	94-04-3	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-6	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) fluoranthene	01	200-99-2	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a,h) perylene	01	181-24-2	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (l) acenaphthene	01	100-81-4	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) naphthalene	01	111-91-1	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) ether	01	111-44-4	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	01	106-80-1	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	01	117-81-7	SW82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Bnly benzyl phthalate	01	65-66-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Chlorobenzene	01	911-95-8	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00	C	2.66	2.66	1	ug/L	SKS
Chrysene	01	218-01-8	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Dibenz	01	200-35-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.66	2.66	1	ug/L	SKS
Diethyl p-xy anthracene	01	62-70-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Dibenzofuran	01	131-64-8	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	6.33	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Dimethylate	01	60-61-5	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.66	2.66	1	ug/L	SKS
Diethyl phthalate	01	131-61-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.8	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Dibenzyltolene	01	127-35-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.8	1	ug/L	SKS
Diethylter	01	206-34-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00	C	2.66	2.66	1	ug/L	SKS
Ethyl methanesulfonate	01	61-55-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	21.3	1	ug/L	SKS
Ethyl acetate	01	74-86-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.66	2.66	1	ug/L	SKS
Fluorifer	01	51-69-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.66	2.66	1	ug/L	SKS
Fluorenone	01	206-44-0	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Fluorene	01	64-73-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		0.89	0.89	1	ug/L	SKS
Hexachlorocyclopentadiene	01	87-68-3	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Hexachlorocyclohexadiene	01	77-47-4	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Hexachlorobenzene	01	67-73-1	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS
Hexachloropropene	01	1655-71-7	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.66	1	ug/L	SKS
Indene (1,2,3-cd) system	01	183-38-1	8190.710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.86	10.8	1	ug/L	SKS

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Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
Acetone	01	69-17-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	01	78-96-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Benzofuran	01	130-66-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Biphenyl	01	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00	C	2.13	2.00	1	ug/L	SKJ
o-Cresol	01	6999-04-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methacrylonitrile	01	91-09-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methacrylate	01	99-27-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	01	298-00-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
Naphthalene	01	91-20-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Nonacrylamide	01	98-98-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylacetamide	01	65-16-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.00	2.00	1	ug/L	SKJ
n-Propylmethacrylamide	01	62-75-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propyl-n-butylamine	01	924-10-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propyl-n-propylamine	01	621-64-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propylsulfonamide	01	84-36-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylurea	01	10905-95-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
n-Propylamine	01	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propylamine	01	930-00-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	01	126-68-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-97-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
o-Cresol	01	1210-77-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
o-Cresol	01	95-48-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
o-Toluidine	01	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenelike Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	89-11-7	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xylene	01	84-94-7	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	01	604-03-5	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Pentachloroantibenzene (quintane)	01	82-09-8	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	01	92-44-2	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	01	89-01-8	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	01	106-06-2	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	01	256-02-2	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	01	100-50-2	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00	C	2.13	10.0	1	ug/L	SKJ
Fluorene	01	2380-48-8	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Pyrene	01	179-09-0	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00	C	1.00	10.0	1	ug/L	SKJ
Selene	01	84-26-7	8162700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	01	28-4 %	20-88	04/06/2018 09:10	04/09/2018 13:34							
Surr: 2-Fluorobiphenyl (Surr)	01	89.4 %	23-87	04/06/2018 09:10	04/09/2018 13:34							
Surr: 2-Fluorophenol (Surr)	01	99.3 %	10-57	04/06/2018 09:10	04/09/2018 13:34							
Surr: Nitrobenzene-d5 (Surr)	01	82.7 %	10-66.8	04/06/2018 09:10	04/09/2018 13:34							
Surr: Fluorene (Surr)	01	24.3 %	5-33	04/06/2018 09:10	04/09/2018 13:34							
Surr: p-Terphenyl-d14 (Surr)	01	64.0 %	27-133	04/06/2018 09:10	04/09/2018 13:34							

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	01	12874-11-2	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.206	0.213	1	ug/L	HLM
PCB as Aroclor 1221	01	11104-25-2	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.218	0.213	1	ug/L	HLM
PCB as Aroclor 1232	01	11141-14-5	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.216	0.213	1	ug/L	HLM
PCB as Aroclor 1240	01	83485-21-8	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.044	0.213	1	ug/L	HLM
PCB as Aroclor 1248	01	72072-29-0	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.091	0.213	1	ug/L	HLM
PCB as Aroclor 1254	01	11097-69-1	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.037	0.213	1	ug/L	HLM
PCB as Aroclor 1260	01	11098-67-5	EPA8082A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.036	0.213	1	ug/L	HLM
Sum PCB	01	20.0 %	30-105	04/06/2018 13:25	04/09/2018 12:25							
Sum PCMX	01	20.0 %	30-105	04/06/2018 13:25	04/09/2018 12:25							
4,4'-DDE	01	72-04-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDD	01	72-85-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDT	01	50-29-3	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
Aldrin	01	309-00-2	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
alpha-BHC	01	319-34-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
gamma-BHC	01	319-85-7	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
Chlordane	01	97-14-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.218	0.213	1	ug/L	HLM
dieldrin	01	319-85-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Dieldrin	01	62-57-1	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan I	01	503-88-4	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan II	01	33213-65-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan sulfate	01	1051-07-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Deslin	01	73-20-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Deslin isobutyle	01	7421-82-4	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
gamma-BHC (Lindane)	01	58-88-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Heptachlor	01	76-44-8	8060B18	0409/2018 13:25	0409/2018 12:25	BL00		0.009	0.003	1	ug/L	MSM
Heptachlor epoxide	01	1024-87-8	8060B18	0409/2018 13:25	0409/2018 12:25	BL00		0.002	0.003	1	ug/L	MSM
Methoxychlor	01	72-43-5	8060B18	0409/2018 13:25	0409/2018 12:25	BL00		0.054	0.003	1	ug/L	MSM
Toxaphene	01	8001-35-2	8060B18	0409/2018 13:25	0409/2018 12:25	BL00		0.213	1.08	1	ug/L	MSM
Sum: PCMX	01	90.0 %	18-112	0409/2018 13:25	0409/2018 12:25							
Sum: DCB	01	55.0 %	27-131	0409/2018 13:25	0409/2018 12:25							

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/MS</i>												
2,4,5-T	01	95-76-5	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	01	95-75-1	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	01	94-75-7	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Simazine	01	88-86-7	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	01	67-89-0	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	01	99.0 %	60-112	0409/2018 13:01	04/17/2018 13:01							

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Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by GC/MS												
1,2-Dibromoethane (DEB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	01	96-18-4	826011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	826011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM

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Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	67-12-5	SW9012B	04/11/2018 13:30	04/11/2018 15:30	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	01	68496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

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Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	02	7440-39-2	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.0	5.0	1	ug/L	BCV
Barium	02	7440-39-3	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	10.0	1	ug/L	JPV
Beryllium	02	7440-41-7	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Cadmium	02	7440-43-9	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Cobalt	02	7440-49-4	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Chromium	02	7440-47-3	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		4.0	10.0	1	ug/L	JPV
Copper	02	7440-50-8	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		2.0	10.0	1	ug/L	JPV
Mercury	02	7439-97-8	8070/7000	04/10/2018 08:33	04/10/2018 16:24	BL00		0.20	0.20	1	ug/L	MMB
Nickel	02	7440-02-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	10.0	1	ug/L	JPV
Lead	02	7439-92-1	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		5.0	10.0	1	ug/L	JPV
Antimony	02	7440-36-0	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.00	5.00	1	ug/L	BCV
Strontium	02	7752-49-2	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		20.0	20.0	1	ug/L	JPV
Thallium	02	7440-36-4	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.00	2.00	1	ug/L	BCV
Vanadium	02	7440-63-2	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		2.0	10.0	1	ug/L	JPV
Zinc	02	7440-66-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		10.0	10.0	1	ug/L	JPV

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Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	02	79-00-5	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	02	78-24-2	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	02	78-36-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.30	1.00	1	ug/L	JCW
1,1-Dichloropropene	02	563-08-8	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropene	02	96-18-4	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	02	120-82-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	02	96-62-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	02	107-06-2	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	02	78-27-5	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	1.00	1	ug/L	JCW
1,3-Dichloropropane	02	541-73-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	02	142-28-9	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	02	106-46-7	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	02	594-20-7	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.30	2.00	1	ug/L	JCW
2-Butanone (MIBK)	02	70-99-5	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
2-Pentanone (MIBK)	02	98-17-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
Acetone	02	67-64-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	02	75-05-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	10.0	1	ug/L	JCW
Acrylonitrile	02	107-02-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.30	10.0	1	ug/L	JCW
Amphetamine	02	107-13-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		1.70	5.00	1	ug/L	JCW
Nyl chloride	02	107-25-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	02	71-43-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Bromochloromethane	02	74-97-5	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	02	75-27-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	0.50	1	ug/L	JCW
Bromofuran	02	75-20-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Bromomethane	02	74-99-9	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Carbon disulfide	02	75-18-0	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	02	56-23-5	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	02	108-90-7	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chloroethane	02	78-09-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	02	67-68-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	0.80	1	ug/L	JCW
Chloromethane	02	74-87-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Chloroacetylene	02	106-95-6	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	0.50	1	ug/L	JCW
cis-1,2-Dichloroethene	02	156-30-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	02	10041-01-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Dibromochloromethane	02	13448-1	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	0.50	1	ug/L	JCW
Dibromomethane	02	74-96-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Dibromofluoromethane	02	75-71-6	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.00	1.00	1	ug/L	JCW
Ethyl methoxybenzene	02	87-63-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	0.50	1	ug/L	JCW
Ethylbenzene	02	100-41-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Heptachlorobenzene	02	87-68-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.80	0.80	1	ug/L	JCW
Iodomethane	02	74-88-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	02	78-83-1	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		18.0	60.0	1	ug/L	JCW
m,p-Xylenes	02	179601-23	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	2.00	1	ug/L	JCW

Certificate of Analysis

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 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	95-63-8	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	2.00	1	ug/L	JCW
Methylene chloride	02	75-29-2	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	02	95-47-8	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
Propylene	02	107-12-9	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		7.00	40.0	1	ug/L	JCW
Styrene	02	100-42-8	SW82008	04/05/2018 13:07	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	02	127-18-4	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.40	1.00	1	ug/L	JCW
Toluene	02	105-98-2	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00	J	0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloroethylene	02	188-90-9	SW82008	04/05/2018 13:07	04/05/2018 13:05	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	02	10061-07-8	SW82008	04/05/2018 13:07	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	02	110-67-8	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethylene	02	79-01-8	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Trichlorofluoromethane	02	75-69-4	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	02	106-68-4	SW82008	04/05/2018 13:07	04/05/2018 13:05	BL00		2.50	10.0	1	ug/L	JCW
Vinyl chloride	02	75-01-4	SW82008	04/05/2018 13:07	04/05/2018 13:05	BL00		0.50	0.50	1	ug/L	JCW
Xylenes, Total	02	1330-20-7	SW82008	04/05/2018 13:05	04/05/2018 13:05	BL00		1.00	3.00	1	ug/L	JCW
Sum 1,2-Dichloroethane-04 (Sum)	02	63.0 %	75-129	04/05/2018 13:05	04/05/2018 13:05							
Sum 4-Bromofluorobenzene (Sum)	02	64.2 %	75-129	04/05/2018 13:05	04/05/2018 13:05							
Sum Dibromofluoromethane (Sum)	02	62.9 %	80-119	04/05/2018 13:05	04/05/2018 13:05							
Sum Toluene-08 (Sum)	02	66.2 %	85-130	04/05/2018 13:05	04/05/2018 13:05							

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Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	69-64-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	02	69-56-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	9.32	1	ug/L	SKS
1,3-Dichlorobenzene	02	69-69-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.69	2.66	1	ug/L	SKS
1,4-Naphthoquinone	02	135-19-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
1-Naphthylene	02	124-32-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.9	1	ug/L	SKS
1,2,4,5-Tetrachlorobenzene	02	69-64-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	02	69-59-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	02	69-59-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
1,4-Dimethylbenzene	01	120-82-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.28	10.8	1	ug/L	SKS
1,4-Dimethylphenol	02	105-67-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.83	8.83	1	ug/L	SKS
2,4-Dichlorophenol	02	61-76-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.51	11.2	1	ug/L	SKS
2,4-Dinitrophenol	02	121-14-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	02	67-65-0	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	02	606-20-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
1-Acetylnaphthalene	02	75-66-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		3.66	3.66	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2-Chlorophenol	02	95-57-0	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
2-Methylnaphthalene	02	91-07-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
2-Naphthylene	02	91-59-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
2-Nitrophenol	02	69-76-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
3-Nitrophenol	02	69-75-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
3,7-Dinitrobenzidine	02	61-64-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		4.28	10.8	1	ug/L	SKS
3,7-Dimethylbenzidine	02	118-83-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.88	2.88	1	ug/L	SKS
3-Methylcholanthrene	02	54-49-5	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS

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Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	02	99-06-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	02	934-03-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
4-Aminodiphenyl	02	93-87-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-85-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
4-Chlorodiphenyl	02	106-47-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	02	3006-17-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
4-Fluorodiphenyl	02	100-01-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Nitrodiphenyl	02	100-02-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
5-Nitro-1-naphthol	02	99-05-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	02	81-87-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
Acenaphthene	02	81-32-5	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Acenaphthylene	02	105-90-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Acenaphthone	02	95-85-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
Anthracene	02	130-13-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Benzo (a) anthracene	02	56-54-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.35	3.5	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.35	3.5	1	ug/L	SKS
Benzo (a) fluoranthene	02	200-99-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Benzo (a,h) perylene	02	181-24-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-38-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
Benzo (ghi) perylene	02	100-81-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
ben (2-Chloromethyl) naphthalene	02	111-81-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
ben (2-Chloromethyl) ether	02	111-44-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	02	106-80-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	02	917-81-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	18.8	1	ug/L	SKS

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	82	85-68-7	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	82	911-95-8	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	82	218-01-8	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Dibenz	82	2003-38-4	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKS
Diethyl p-xylenediamine	82	93-70-3	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	82	133-84-8	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	8.32	1	ug/L	SKS
Diethyl phthalate	82	84-66-2	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Dimethyl	82	65-81-5	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	82	121-91-3	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Di-n-butyl phthalate	82	84-74-3	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKS
Di-n-octyl phthalate	82	117-84-0	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Dibenzylamine	82	127-35-4	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKS
Diethylam	82	205-34-4	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methanesulfonate	82	62-55-0	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	21.3	1	ug/L	SKS
Ethyl acetate	82	74-86-3	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKS
Fluorphen	82	53-69-7	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKS
Fluorenone	82	206-44-0	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	82	84-73-7	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	82	118-74-1	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	82	87-68-3	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclohexadiene	82	77-47-4	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Hexachloroethane	82	67-73-1	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	82	1888-71-7	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	82	183-38-1	8193.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1806114-62

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GC/MS												
Acetic	02	60-52-0	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	02	78-58-1	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	02	126-98-1	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
Alkane	02	143-00-0	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.53	2.00	1	ug/L	SKJ
Amphetamine	02	6099-04-0	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methamphetamine	02	81-09-9	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	02	66-27-3	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	02	298-00-0	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	2.00	1	ug/L	SKJ
Naphthalene	02	81-20-3	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Nicotinamide	02	98-58-3	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodiphenylamine	02	95-16-6	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosodimethylamine	02	62-75-6	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n-Nitrosodiethylamine	02	924-16-3	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	02	927-64-7	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	02	84-36-6	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodihydroxylamine	02	10005-95-8	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	2.00	1	ug/L	SKJ
n-Nitrosopiperidine	02	100-75-4	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n-Nitrosopyrrolidine	02	930-05-2	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	02	126-68-1	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	02	297-67-3	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
Amphetamine	02	1215-77-2	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	10.0	1	ug/L	SKJ
n-Cresol	02	95-49-7	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
p-Toluene	02	95-53-4	8190.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.53	2.00	1	ug/L	SKJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1809114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-Dimethylbenzyl acetophenone	02	85-11-7	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	2.00	1	ug/L	SKB
p-Chloro-m-xylene	02	95-93-7	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Pentachlorobenzene	02	605-65-5	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKB
Pentachloroantimonybenzene (quintolene)	02	82-69-8	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	1.00	1	ug/L	SKB
Phenanthrene	02	92-44-2	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluorenone	02	89-01-9	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluorant	02	106-95-1	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluoranthene	02	206-02-1	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKB
p-Fluorobenzonitrile	02	108-90-1	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00	C	2.13	10.0	1	ug/L	SKB
Fluoranthene	02	206-02-1	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKB
Pyrene	02	129-00-0	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00	C	1.00	10.0	1	ug/L	SKB
Sulfone	02	74-56-7	8192710	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKB
Surr: 2,4,6-Trinitrophenol (Surr)	02	71-8 %	20-88	04/06/2018 09:10	04/09/2018 14:08							
Surr: 2-Fluorobiphenyl (Surr)	02	80.4 %	23-67	04/06/2018 09:10	04/09/2018 14:08							
Surr: 2-Fluorophenol (Surr)	02	44.4 %	10-57	04/06/2018 09:10	04/09/2018 14:08							
Surr: Nitrobenzene-d5 (Surr)	02	72.8 %	10-66.8	04/06/2018 09:10	04/09/2018 14:08							
Surr: Fluorobenzene (Surr)	02	77.8 %	5-33	04/06/2018 09:10	04/09/2018 14:08							
Surr: p-Terphenyl-d14 (Surr)	02	73.1 %	27-133	04/06/2018 09:10	04/09/2018 14:08							

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Client Sample ID: Field Blank

Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	02	12874-11-2	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.226	0.213	1	ug/L	HLM
PCB as Aroclor 1221	02	11104-26-2	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.218	0.213	1	ug/L	HLM
PCB as Aroclor 1232	02	11147-16-5	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.216	0.213	1	ug/L	HLM
PCB as Aroclor 1240	02	83485-21-8	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.244	0.213	1	ug/L	HLM
PCB as Aroclor 1248	02	72672-29-6	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.261	0.213	1	ug/L	HLM
PCB as Aroclor 1254	02	11097-66-1	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.037	0.213	1	ug/L	HLM
PCB as Aroclor 1260	02	11096-82-0	EPA8082A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.036	0.213	1	ug/L	HLM
Sum PCB	02	402 %	30-105	04/06/2018 13:29	04/06/2018 12:42							
Sum PCMX	02	502 %	30-105	04/06/2018 13:29	04/06/2018 12:42							
4,4'-DDE	02	72-64-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDD	02	72-65-6	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDT	02	50-29-3	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
Aldrin	02	309-00-2	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
alpha-BHC	02	519-54-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
gamma-BHC	02	272-85-7	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
Chlordane	02	87-14-6	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.218	0.213	1	ug/L	HLM
dieldrin	02	519-55-9	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Dieldrin	02	60-57-1	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan I	02	505-66-4	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan II	02	33213-65-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan sulfate	02	1021-37-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Deslin	02	73-20-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Deslin allylate	02	7421-82-4	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
gamma-BHC (Lindane)	02	58-88-9	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM

Certificate of Analysis

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Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.009	0.003	1	ug/L	MSM
Heptachlor epoxide	02	1024-57-8	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.009	0.003	1	ug/L	MSM
Methoxychlor	02	73-43-9	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.064	0.003	1	ug/L	MSM
Toxaphene	02	8001-35-2	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.213	0.06	1	ug/L	MSM
Sum: PCMX	02	70.0 %	18-112	0409/2018 13:29	0409/2018 12:42							
Sum: DCB	02	55.0 %	27-131	0409/2018 13:29	0409/2018 12:42							

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Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	95-79-5	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-73-1	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	02	94-75-7	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Simazine	02	88-85-7	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	02	87-86-0	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	02	80.0 %	80-112	0409/2018 13:31	04/17/2018 13:19							

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Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	02	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:00	BLDG		0.000	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:00	BLDG		0.000	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:00	BLDG		0.000	0.010	1	ug/L	MSM

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1806114-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chloride	82	6712-5	SW9012B	04/11/2018 13:33	04/11/2018 13:33	BL00	C	0.01	0.01	1	mg/L	BP
Sulfate	82	66498-24-8	SW9015	04/09/2018 11:02	04/09/2018 11:02	BL00		0.80	1.00	1	mg/L	DLF

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Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1806114-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	636-20-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-68-8	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	04	79-00-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	79-34-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	06	79-39-4	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropene	07	563-09-8	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	08	96-18-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	09	120-82-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	00	95-50-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	01	107-06-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	75-27-5	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	03	541-73-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	142-29-9	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	05	106-46-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	06	694-70-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MIBK)	07	79-59-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	08	98-179-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		3.00	3.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		6.00	6.00	1	ug/L	JDW
Acetone	00	67-64-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	01	75-05-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.00	10.0	1	ug/L	JDW
Acrylonitrile	02	107-02-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.50	10.0	1	ug/L	JDW
Acrylonitrile	03	107-13-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	04	107-26-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

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Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Trip Blank**

Laboratory Sample ID: **1806114-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	01	71-43-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	02	74-97-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	03	75-27-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.50	1	ug/L	JDW
Bromofluoromethane	04	75-25-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Bromomethane	05	74-83-9	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	06	75-18-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	07	95-23-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroacetylene	08	100-00-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	09	78-09-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	10	67-68-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	11	74-87-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	12	105-65-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	5.00	1	ug/L	JDW
cis-1,2-Dichloroethene	13	100-00-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	14	10001-41-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	15	13448-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	16	74-96-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Dibromofluoromethane	17	75-71-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methacrylate	18	97-63-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.00	1	ug/L	JDW
Ethylbenzene	19	100-41-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Heptachlorobenzene	20	67-68-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.80	0.80	1	ug/L	JDW
Iodomethane	21	74-88-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.20	10.0	1	ug/L	JDW
Isobutyl Alcohol	22	78-83-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		18.0	60.0	1	ug/L	JDW
m,p-Xylene	23	179601-23	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Trip Blank**

Laboratory Sample ID: **1806114-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	01	95-62-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Propene	01	107-12-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		7.00	40.0	1	ug/L	JDW
Styrene	01	100-42-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Tetrafluoroethylene (TFE)	01	127-18-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Ethene	01	100-85-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethene	01	100-85-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloropropene	01	10061-02-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	110-07-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	75-01-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-09-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	100-05-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-ol (Sum)	01	94.0 %	75-120	04/05/2018 12:12	04/05/2018 12:13							
Sum: 4-Dibromofluorobenzene (Sum)	01	90.0 %	75-120	04/05/2018 12:12	04/05/2018 12:13							
Sum: Dibromofluoromethane (Sum)	01	83.0 %	85-119	04/05/2018 12:12	04/05/2018 12:13							
Sum: Toluene-ol (Sum)	01	86.0 %	85-130	04/05/2018 12:12	04/05/2018 12:13							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1806114-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromoethane (EDB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:18	BLND		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:18	BLND		0.005	0.010	1	ug/L	MSM
1,2-Dichloro-3-chloropropane (DCCP)	03	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:18	BLND		0.005	0.010	1	ug/L	MSM



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Method (Title) by EPA 8000/T000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0155 - EPA200.2/R2.8

Blank (BBD0155-BLK1)

Prepared: 04/05/2018 Analyzed: 04/09/2018

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BBD0155-091)

Prepared: 04/05/2018 Analyzed: 04/09/2018

Barium	530	10.0	ug/L	500	105	80-120
Beryllium	545	4.0	ug/L	500	109	80-120
Cadmium	538	4.0	ug/L	500	107	80-120
Chromium	541	10.0	ug/L	500	108	80-120
Cobalt	550	4.0	ug/L	500	110	80-120
Copper	529	10.0	ug/L	500	106	80-120
Lead	530	10.0	ug/L	500	106	80-120
Nickel	545.1	10.0	ug/L	500	110	80-120
Selenium	541	50.0	ug/L	500	108	80-120
Silver	535	10.0	ug/L	500	107	80-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 18041201 - 1804201201										
LC8 (18041201-181)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Ti	80.8	20.0	ug/L	100		80.8	80-120			
Vanadium	503	10.0	ug/L	500		107	80-120			
Zn	544	10.0	ug/L	500		108	80-120			
LC8 Dup (18041201-182)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Boron	513	10.0	ug/L	500		102	80-120	3.36	20	
Beryllium	517	4.0	ug/L	500		103	80-120	5.32	20	
Calcium	515	4.0	ug/L	500		102	80-120	4.85	20	
Chromium	514	10.0	ug/L	500		103	80-120	5.16	20	
Cobalt	520	4.0	ug/L	500		104	80-120	5.71	20	
Copper	500	10.0	ug/L	500		100	80-120	5.50	20	
Lead	508	10.0	ug/L	500		100	80-120	5.48	20	
Nickel	517.9	10.0	ug/L	500		104	80-120	5.84	20	
Selenium	505	50.0	ug/L	500		100	80-120	7.79	20	
Silver	101	10.0	ug/L	100		101	80-120	3.55	20	E
Ti	80.8	20.0	ug/L	100		80.8	80-120	0.296	20	
Vanadium	506	10.0	ug/L	500		101	80-120	5.19	20	
Zn	514	10.0	ug/L	500		103	80-120	5.75	20	
Matrix Spike (18041201-183)										
				Source: 18041201-08 Prepared: 04/09/2018 Analyzed: 04/09/2018						
Boron	357	10.0	ug/L	500	34.0	107	75-125			
Beryllium	504	4.0	ug/L	500	BL00	111	75-125			
Calcium	526	4.0	ug/L	500	BL00	106	75-125			
Chromium	528	10.0	ug/L	500	11.0	106	75-125			
Cobalt	529	4.0	ug/L	500	BL00	106	75-125			
Copper	541	10.0	ug/L	500	BL00	108	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Matrix (Total): by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1804151 - EPA200.2M2.1

Matrix Spike (1804151-M51)		Source: 1804151-01			Prepared: 04/09/2018 Analyzed: 04/09/2018					
Lead	514	10.0	ug/L	500	BLOD	100	75-125			
Nickel	522.8	10.0	ug/L	500	B.L	104	75-125			
Selenium	487	50.0	ug/L	500	BLOD	98.4	75-125			
Silver	109	10.0	ug/L	100	BLOD	109	75-125			E
Tin	47.9	20.0	ug/L	100	BLOD	47.9	75-125			M
Vanadium	537	10.0	ug/L	500	BLOD	107	75-125			
Zinc	558	10.0	ug/L	500	37.8	104	75-125			

Matrix Spike (1804151-M52)		Source: 1804151-01			Prepared: 04/09/2018 Analyzed: 04/09/2018					
Barium	551	10.0	ug/L	500	16.9	107	75-125			
Beryllium	559	4.0	ug/L	500	BLOD	112	75-125			
Cadmium	525	4.0	ug/L	500	BLOD	105	75-125			
Chromium	638	10.0	ug/L	500	BLOD	108	75-125			
Cobalt	530	4.0	ug/L	500	BLOD	106	75-125			
Copper	581	10.0	ug/L	500	12.7	114	75-125			
Lead	504	10.0	ug/L	500	BLOD	101	75-125			
Nickel	527.1	10.0	ug/L	500	BLOD	105	75-125			
Selenium	480	50.0	ug/L	500	BLOD	96.8	75-125			
Silver	111	10.0	ug/L	100	BLOD	111	75-125			E
Tin	32.7	20.0	ug/L	100	BLOD	32.7	75-125			M
Vanadium	541	10.0	ug/L	500	BLOD	108	75-125			
Zinc	543	10.0	ug/L	500	27.1	103	75-125			

Matrix Spike Dup (1804151-M53)		Source: 1804151-01			Prepared: 04/09/2018 Analyzed: 04/09/2018					
Barium	573	10.0	ug/L	500	34.3	108	75-125	0.818	20	
Beryllium	558	4.0	ug/L	500	BLOD	111	75-125	0.387	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Matrix (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 8004101 - 8242062823

Matrix Spike Spig (8004101-824206)	Source: 1804120-08			Prepared: 04/05/2018	Analyzed: 04/09/2018					
Cadmium	526	4.0	ug/L	500	BLOD	106	75-125	0.140	20	
Chromium	940	10.0	ug/L	500	71.8	108	75-125	0.471	20	
Cobalt	534	4.0	ug/L	500	BLOD	107	75-125	0.818	20	
Copper	143	10.0	ug/L	500	BLOD	109	75-125	0.409	20	
Lead	510	10.0	ug/L	500	BLOD	103	75-125	0.319	20	
Nickel	556.2	10.0	ug/L	500	9.1	105	75-125	0.635	20	
Selenium	498	10.0	ug/L	500	BLOD	99.5	75-125	0.105	20	
Silver	110	10.0	ug/L	100	BLOD	110	75-125	0.999	20	E
Ti	52.8	20.0	ug/L	100	BLOD	52.0	75-125	8.18	20	M
Vanadium	538	10.0	ug/L	500	BLOD	108	75-125	0.293	20	
Zinc	553	10.0	ug/L	500	37.8	105	75-125	0.663	20	

Matrix Spike Spig (8004101-824206)	Source: 1804104-01			Prepared: 04/05/2018	Analyzed: 04/09/2018					
Boron	170	10.0	ug/L	500	18.9	111	75-125	3.27	20	
Beryllium	881	4.0	ug/L	500	BLOD	116	75-125	3.99	20	
Barium	648	4.0	ug/L	500	BLOD	109	75-125	3.63	20	
Chromium	500	10.0	ug/L	500	BLOD	112	75-125	4.01	20	
Cobalt	503	4.0	ug/L	500	BLOD	113	75-125	5.90	20	
Copper	607	10.0	ug/L	500	13.7	119	75-125	4.25	20	
Lead	534	10.0	ug/L	500	BLOD	107	75-125	5.88	20	
Nickel	899.8	10.0	ug/L	500	BLOD	112	75-125	5.88	20	
Selenium	526	10.0	ug/L	500	BLOD	106	75-125	6.20	20	
Silver	115	10.0	ug/L	100	BLOD	115	75-125	3.40	20	E
Ti	36.0	20.0	ug/L	100	BLOD	36.0	75-125	9.76	20	M
Vanadium	384	10.0	ug/L	500	BLOD	113	75-125	4.23	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch 8800150 - EPA200.8 BSL										
Matrix Spike Dup (8800150-MSD) Source: 1800150-01 Prepared: 04/05/2018 Analyzed: 04/09/2018										
Zinc	877	10.0	ug/L	800	27.1	110	75-125	6.97	20	
Batch 8800150 - EPA200.8 BSL										
Blank (8800150-BLANK) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	BLOO	5.00	ug/L							
Arsenic	BLOO	5.0	ug/L							
Thallium	BLOO	2.00	ug/L							
LCS (8800150-B51) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	52.5	5.00	ug/L	50.0		105	80-120			
Arsenic	49	5.0	ug/L	50.0		98.3	80-120			
Thallium	43.8	2.00	ug/L	50.0		87.7	80-120			
LCS Dup (8800150-B5D1) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	63.7	5.00	ug/L	50.0		107	80-120	2.41	20	
Arsenic	50	5.0	ug/L	50.0		99.8	80-120	1.48	20	
Thallium	42.7	2.00	ug/L	50.0		85.5	80-120	2.55	20	
Matrix Spike (8800150-M31) Source: 1800150-05 Prepared: 04/06/2018 Analyzed: 04/17/2018										
Antimony	54.0	5.00	ug/L	50.0	BLOO	108	75-125			
Arsenic	51	5.0	ug/L	50.0	BLOO	103	75-125			
Thallium	38.3	2.00	ug/L	50.0	BLOO	76.6	75-125			
Matrix Spike Dup (8800150-M3D1) Source: 1800150-05 Prepared: 04/06/2018 Analyzed: 04/17/2018										
Antimony	52.9	5.00	ug/L	50.0	BLOO	106	75-125	1.89	20	
Arsenic	50	5.0	ug/L	50.0	BLOO	101	75-125	1.89	20	
Thallium	42.0	2.00	ug/L	50.0	BLOO	84.0	75-125	8.46	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Method (Title) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: 8800222 - RW1425A										
Blank (8800222-BL1)										
Mercury	BLOD	0.20	ug/L							
LCS (8800222-BL1)										
Mercury	2.25	0.20	ug/L	2.50		91.3	90-120			
LCS Dup (8800222-BL2)										
Mercury	2.27	0.20	ug/L	2.50		90.6	80-120	0.737	20	
Matrix Spike (8800222-MS1)										
Mercury	2.40	0.20	ug/L	2.50	BLOD	96.1	80-120			
Matrix Spike (8800222-MS2)										
Mercury	1.13	0.20	ug/L	2.50	BLOD	45.3	80-120			M
Matrix Spike Dup (8800222-MS2')										
Mercury	2.29	0.20	ug/L	2.50	BLOD	91.7	80-120	4.68	20	
Matrix Spike Dup (8800222-MS2'')										
Mercury	1.19	0.20	ug/L	2.50	BLOD	47.5	80-120	4.72	20	M

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8900181 - 8900188

Blank (8900181-8900188)

Prepared & Analyzed: 04/09/2018

1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,1-Trifluoroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,2-Trifluoroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dibromoethane	BL00	1.00	ug/L							
1,1-Dichloroethene	BL00	1.00	ug/L							
1,1-Dibromoethene	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dibromoethane	BL00	1.00	ug/L							
1,2-Dichloroethene	BL00	1.00	ug/L							
1,2-Dibromoethene	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,3-Dibromobenzene	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
1,4-Dibromobenzene	BL00	1.00	ug/L							
2,2-Dichloropropane	BL00	2.00	ug/L							
2-Butanone (MEK)	BL00	5.00	ug/L							
2-Hexanone (MIBK)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acetonitrile	BL00	10.0	ug/L							
Acrylonitrile	BL00	5.00	ug/L							
Allyl chloride	BL00	1.00	ug/L							
Benzene	BL00	1.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NDEC	NDEC Limit	RPD	RPD Limit	Qual
Batch #200181 - 200208										
Blank (200181-200181)										
Prepared & Analyzed 04/09/2018										
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromofluoromethane	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromomethane	BL00	5.00	ug/L							
o-1,2-Dichloroethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethyl methyl ether	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heptachlorobenzene	BL00	0.50	ug/L							
Iodomethane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methyl ether	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch #000181 - 000008

Batch #000181-000008				Prepared & Analyzed 04/09/2018						
Metals (0000181-000008)										
n-Heptane	81.00	1.00	ug/L							
Propene	81.00	40.0	ug/L							
Hexane	81.00	1.00	ug/L							
Tetrahydrofuran (THF)	81.00	1.00	ug/L							
Octane	81.00	1.00	ug/L							
nona-1,2-Dichloroethane	81.00	1.00	ug/L							
nona-1,3-Dichloropropane	81.00	1.00	ug/L							
nona-1,4-Dichloro-2-butene	81.00	4.00	ug/L							
Dichloroethylene	81.00	1.00	ug/L							
Trichloroethylene	81.00	1.00	ug/L							
Vinyl acetate	81.00	10.0	ug/L							
Vinyl chloride	81.00	0.50	ug/L							
Hydrazine, Total	81.00	3.00	ug/L							
Sum 1,3-Dichloropropane (Sum)	41.8		ug/L	50.0		87.1	75-130			
Sum 4-Bromochloropropane (Sum)	41.4		ug/L	50.0		92.8	75-130			
Sum Dichloroethylene (Sum)	41.8		ug/L	50.0		91.8	80-119			
Sum Hexane-80 (Sum)	40.3		ug/L	50.0		86.7	80-130			

LCS (0000181-000008)				Prepared & Analyzed 04/09/2018						
1,1,1-Trichloroethane	50.8	0.4	ug/L	50.0		107	80-130			
1,1,1-Trichloroethane	47.5	1	ug/L	50.0		99.0	85-130			
1,1,2-Trichloroethane	44.7	0.4	ug/L	50.0		99.4	80-130			
1,1,2-Trichloroethane	48.8	1	ug/L	50.0		97.8	75-125			
1,1-Dichloroethane	47.3	1	ug/L	50.0		94.8	70-135			
1,1-Dichloroethylene	44.7	1	ug/L	50.0		93.4	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900208										
LOQ (8900181-8900208)										
Prepared & Analyzed: 04/09/2018										
1,1-Dichloroethane	45.2	1	ug/L	50.0	50.4	90.4	75-125			
1,1,2-Trichloroethane	43.3	1	ug/L	50.0	50.4	90.8	75-125			
1,1,4-Trichlorobutane	46.7	1	ug/L	50.0	50.5	91.0	80-135			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0	50	100	75-125			
1,2-Dichloroethane	45.4	1	ug/L	50.0	50.8	91.6	75-125			
1,2-Dibromochloroethane	47.5	1	ug/L	50.0	50.1	90.2	75-125			
1,3-Dichlorobenzene	51.5	1	ug/L	50.0	50	100	75-125			
1,3-Dichloropropane	46.7	1	ug/L	50.0	50.5	91.0	75-125			
1,4-Dibromobenzene	46.4	1	ug/L	50.0	50.6	91.2	75-125			
1,2-Dibromoethane	49.3	2	ug/L	50.0	50.4	90.8	75-125			
2-Butanone (MIBK)	55.5	5	ug/L	50.0	52.6	105.2	35-105			
3-Pentanone (MIBK)	56.7	5	ug/L	50.0	57.5	101.4	35-105			
4-Methyl-2-pentanone (MIBK)	56.8	5	ug/L	50.0	59.2	104.2	35-105			
Acetone	55.3	10	ug/L	50.0	58.7	106.1	40-140			
Acrylonitrile	100	5	ug/L	200	64.2	32.1	75-125			L
Benzene	47.1	1	ug/L	50.0	54.2	115.1	30-100			
Bromoacetonitrile	51.6	1	ug/L	50.0	50	100	35-105			
Bromochloroethane	51.6	0.5	ug/L	50.0	54	108	75-125			
Bromobenzene	51.1	1	ug/L	50.0	50	100	35-120			
Bromomethane	42.2	1	ug/L	50.0	54.4	129	30-140			
Carbon disulfide	45.4	10	ug/L	50.0	50.9	101.8	30-100			
Carbon tetrachloride	52.1	1	ug/L	50.0	54	108	35-140			
Chlorobenzene	46.6	1	ug/L	50.0	57.0	122.3	30-120			
Chloroethane	41.5	1	ug/L	50.0	51.0	123	30-120			
Chloroform	43.7	0.5	ug/L	50.0	57.4	131.4	35-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802188

LO2 (1802181-181)										
Prepared & Analyzed: 04/09/2018										
Chloroethane	41.4	1	ug/L	50.0		52.8	40-120			
cis-1,2-Dichloroethylene	43.2	1	ug/L	50.0		55.5	75-120			
cis-1,3-Dichloropropene	45.4	1	ug/L	50.0		50.8	75-120			
Dibromochloromethane	61.6	0.5	ug/L	50.0		100	60-120			
Dibromomethane	45.8	1	ug/L	50.0		57.5	75-120			
Dibromofluoromethane	11.3	1	ug/L	50.0		52.7	20-150			
Ethylbenzene	55.3	1	ug/L	50.0		70.1	75-120			
Heptachlorobutadiene	54.0	0.8	ug/L	50.0		108	50-140			
m,p-Xylene	100	2	ug/L	100		100	75-120			
Isobutylene oxide	42.4	4	ug/L	50.0		54.9	50-140			
n-Butane	48.8	1	ug/L	50.0		55.5	50-120			
Benzene	51.2	1	ug/L	50.0		100	50-120			
Tetrachloroethylene (PCE)	75.8	1	ug/L	50.0		142	40-150			
Toluene	55.0	1	ug/L	50.0		700	75-120			
trans-1,2-Dichloroethylene	44.7	1	ug/L	50.0		55.5	50-140			
trans-1,3-Dichloropropene	40.2	1	ug/L	50.0		55.5	50-140			
Trichloroethylene	44.5	1	ug/L	50.0		57.1	75-120			
Trichlorofluoromethane	42.7	1	ug/L	50.0		55.5	50-140			
Vinyl chloride	45.9	0.5	ug/L	50.0		51.9	50-140			
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Sum: 1,2-Dichloroethane-ep (Sum)	48.1		ug/L	50.0		58.1	75-120			
Sum: 4-Bromofluorobenzene (Sum)	48.7		ug/L	50.0		57.4	75-120			
Sum: Dibromofluoromethane (Sum)	48.2		ug/L	50.0		55.3	50-110			
Sum: Toluene-ep (Sum)	48.8		ug/L	50.0		55.1	50-120			

Matrix Spike (1802181-181)										
Source: 1802181-01 Prepared & Analyzed: 04/09/2018										

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatle Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 8800181 - 8800208

Matrix Spike (8800181-881)	Source: 1804176-01	Prepared & Analyzed 04/09/2018								
1,1,1,2-Tetrafluoroethane	48.8	0.4	ug/L	50.0	51.00	97.8	90-100			
1,1,1-Trifluoroethane	48.1	1	ug/L	50.0	51.00	98.2	90-100			
1,1,2,2-Tetrafluoroethane	44.2	0.4	ug/L	50.0	51.00	98.4	90-100			
1,1,2-Trifluoroethane	49.9	1	ug/L	50.0	51.00	99.9	75-125			
1,1-Difluoroethane	54.5	1	ug/L	50.0	58.0	91.7	75-125			
1,1-Dichloroethane	45.8	1	ug/L	50.0	51.00	91.7	75-125			
1,1-Dichloroethene	46.2	1	ug/L	50.0	51.00	92.0	75-125			
1,2,2-Trichloroethane	42.9	1	ug/L	50.0	51.00	95.0	75-125			
1,2,4-Trichlorobenzene	45.1	1	ug/L	50.0	51.00	94.2	60-120			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	52.0	98.2	75-125			
1,2-Dichloroethane	51.8	1	ug/L	50.0	51.00	98.7	95-130			
1,2-Dichloroethene	44.4	1	ug/L	50.0	51.00	87.7	75-125			
1,3-Dichlorobenzene	51.2	1	ug/L	50.0	51.00	100	75-125			
1,3-Dichloroethane	45.7	1	ug/L	50.0	51.00	91.3	75-125			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0	48.0	96.0	75-125			
2,2-Dichloropropane	44.7	2	ug/L	50.0	51.00	99.0	75-125			
2-Butanone (MEK)	31.0	0	ug/L	50.0	51.00	53.0	30-100			
2-Pentanone (MIBK)	34.8	0	ug/L	50.0	51.00	73.6	60-120			
4-Methyl-2-pentanone (MIBK)	38.3	0	ug/L	50.0	51.00	78.6	60-120			
Acetone	32.0	10	ug/L	50.0	51.00	63.0	40-140			
Acrylonitrile	189	0	ug/L	250	51.00	67.6	75-120			W
Benzene	49.7	1	ug/L	50.0	1.87	53.8	60-120			
Bromochloromethane	45.1	1	ug/L	50.0	51.00	98.2	60-120			
Bromodichloromethane	49.2	0.5	ug/L	50.0	51.00	98.4	75-120			
Bromofluoromethane	49.1	1	ug/L	50.0	51.00	98.2	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
Matrix Spike (8000181-8000181)										
Source: 180419-01 Prepared & Analyzed: 04/03/2018										
Bromomethane	29.8	1	ug/L	50.0	8.00	79.2	30-140			
Carbon disulfide	42.4	10	ug/L	50.0	8.00	64.8	30-160			
Carbon tetrachloride	53.7	1	ug/L	50.0	8.00	107	65-140			
Chloroacetylene	49.9	1	ug/L	50.0	3.99	64.0	60-120			
Chloroethane	47.4	1	ug/L	50.0	3.20	60.3	60-120			
Chloroform	42.1	0.8	ug/L	50.0	8.00	64.2	60-120			
Chloromethane	40.0	1	ug/L	50.0	0.88	78.8	60-120			
cis-1,2-Dichloroethylene	52.2	1	ug/L	50.0	9.75	64.8	70-125			
cis-1,3-Dichloropropene	42.1	1	ug/L	50.0	8.00	64.2	70-130			
Dibromochloromethane	49.9	0.2	ug/L	50.0	8.00	99.8	60-120			
Dibromomethane	45.0	1	ug/L	50.0	8.00	67.8	75-125			
Dichlorodifluoromethane	42.9	1	ug/L	50.0	8.00	65.7	30-155			
Ethylbenzene	48.9	1	ug/L	50.0	8.00	67.8	70-125			
Heptachlorobenzene	54.2	0.8	ug/L	50.0	8.00	712	30-160			
Hex Fluoride	55.8	2	ug/L	120	8.00	66.8	70-130			
Methylene chloride	41.3	4	ug/L	50.0	8.00	61.2	30-140			
n-Heptane	47.4	1	ug/L	50.0	8.00	64.0	60-120			
Hexane	47.7	1	ug/L	50.0	8.00	65.4	65-130			
Tetrachloroethylene (PCE)	70.4	1	ug/L	50.0	8.00	140	45-150			
Toluene	48.4	1	ug/L	50.0	8.00	66.8	75-120			
trans-1,2-Dichloroethylene	44.3	1	ug/L	50.0	3.40	67.7	60-140			
trans-1,3-Dichloropropene	48.0	1	ug/L	50.0	8.00	61.6	55-140			
Trichloroethylene	47.8	1	ug/L	50.0	1.20	60.3	70-120			
Trichlorofluoromethane	44.7	1	ug/L	50.0	8.00	66.3	60-140			
Vinyl chloride	46.2	0.8	ug/L	50.0	3.80	66.7	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802182

Matrix Spike (1802181 MS1)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
Sum 1,2-Dichloroethane (Sum)	45.8		ug/L	50.0		91.6	75-120			
Sum 4-Bromodichloroethane (Sum)	47.8		ug/L	50.0		95.6	75-120			
Sum Chloromethanes (Sum)	47.8		ug/L	50.0		95.6	80-110			
Sum Toluene (Sum)	49.8		ug/L	50.0		99.7	90-120			

Matrix Spike One (1802181 MS2)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
1,1,1,2-Tetrafluoroethane	49.7	0.4	ug/L	50.0	BLOD	99.5	80-130	8.69	30	
1,1,1-Trichloroethane	39.6	1	ug/L	50.0	BLOD	79.2	65-130	19.4	30	
1,1,1,2-Tetrafluoroethane	41.8	0.4	ug/L	50.0	BLOD	83.6	65-130	9.70	30	
1,1,2-Dichloroethane	41.3	1	ug/L	50.0	BLOD	82.6	75-125	12.6	30	
1,1-Dichloroethane	44.2	1	ug/L	50.0	6.62	71.1	70-135	20.9	30	
1,1-Dichloroethylene	37.6	1	ug/L	50.0	BLOD	75.1	70-130	18.9	30	
1,1-Dichloropropane	39.0	1	ug/L	50.0	BLOD	78.1	75-135	16.9	30	
1,2,2-Trichloropropane	39.3	1	ug/L	50.0	BLOD	78.8	75-125	7.83	30	
1,2-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	96.2	65-135	4.33	30	
1,2-Dichloroethane	45.8	1	ug/L	50.0	0.29	91.1	70-120	8.46	30	
1,2-Dichloroethane	31.4	1	ug/L	50.0	BLOD	61.9	70-130	21.1	30	M
1,2-Dichloropropane	38.9	1	ug/L	50.0	BLOD	78.7	75-125	13.2	30	
1,3-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	90.2	75-125	16.8	30	
1,3-Dichloropropane	38.1	1	ug/L	50.0	BLOD	76.1	75-125	15.1	30	
1,4-Dichlorobenzene	48.1	1	ug/L	50.0	4.88	99.4	75-125	11.4	30	
1,2-Dichloropropane	37.7	2	ug/L	50.0	BLOD	75.4	75-130	16.8	30	
3-Pentanone (MIX)	39.8	5	ug/L	50.0	BLOD	89.6	30-100	7.71	30	
2-Hexanone (MIX)	34.8	5	ug/L	50.0	BLOD	69.6	35-130	5.06	30	
4-Methyl-2-pentanone (MIX)	35.0	5	ug/L	50.0	BLOD	70.0	65-130	11.8	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1804181 - 1804208										
Main: Spike Exp (1804181-1804208)										
Source: 180418-01 Filtered & Analyzed: 04/09/2018										
Acetone	36.8	10	ug/L	50.0	54.00	73.6	40-140	11.3	30	
Acrylonitrile	121	5	ug/L	200	51.00	60.4	75-130	11.4	30	W
Benzene	42.8	1	ug/L	50.0	1.87	81.4	50-130	13.4	30	
Bromochloromethane	49.9	1	ug/L	50.0	51.00	61.0	65-130	14.2	30	
Bromodichloromethane	41.5	0.5	ug/L	50.0	51.00	62.1	75-130	18.2	30	
Bromotoluene	66.7	1	ug/L	50.0	51.00	53.4	75-130	5.00	30	
Bromonitrile	33.3	1	ug/L	50.0	51.00	66.6	20-140	17.2	30	
Carbon disulfide	34.4	10	ug/L	50.0	51.00	64.6	35-160	26.9	30	
Carbon tetrachloride	44.7	1	ug/L	50.0	51.00	66.6	50-140	16.3	30	
Chlorobenzene	45.8	1	ug/L	50.0	1.89	66.4	50-130	6.26	30	
Dibromofluoride	54.7	1	ug/L	50.0	3.33	64.6	65-130	20.0	30	
Chloroform	34.8	0.5	ug/L	50.0	51.00	66.6	65-130	16.0	30	
Dichloromethane	31.9	1	ug/L	50.0	0.89	62.6	40-130	22.6	30	
o-1,2-Dichlorobenzene	44.0	1	ug/L	50.0	5.75	65.0	75-130	17.1	30	W
o-1,2-Dichlorobenzene	35.3	1	ug/L	50.0	51.00	70.7	75-130	11.5	30	
Dibromochloromethane	42.8	0.5	ug/L	50.0	51.00	67.1	60-130	13.5	30	
Dibromomethane	56.6	1	ug/L	50.0	51.00	77.2	75-130	17.4	30	
Dibromodifluoromethane	31.3	1	ug/L	50.0	51.00	64.6	30-130	26.1	30	
Ethylbenzene	43.8	1	ug/L	50.0	51.00	67.3	75-130	11.5	30	
Heptachlorobutadiene	61.1	0.8	ug/L	50.0	51.00	120	50-140	8.26	30	
m,p-Xylenes	67.1	2	ug/L	100	51.00	67.1	75-130	9.43	30	
Methylene chloride	39.3	4	ug/L	50.0	51.00	64.3	55-140	16.4	30	
p-Xylene	42.8	1	ug/L	50.0	51.00	65.2	60-130	10.7	30	
Toluene	43.3	1	ug/L	50.0	51.00	66.5	65-130	8.81	30	
Tetrachloroethylene (PCE)	56.3	1	ug/L	50.0	51.00	120	40-130	5.70	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 1804181 - 1804182

Matrix Spike Log (1804181-1804182)	Source: 180418-01		Prepared & Analyzed: 04/09/2018							
Toluene	43.8	1	ug/L	50.0	BLOD	87.6	75-125	15.8	30	
trans-1,2-Dichloroethene	27.1	1	ug/L	50.0	0.40	73.8	80-140	17.7	30	
trans-1,3-Dichloropropene	39.9	1	ug/L	50.0	BLOD	79.0	55-140	15.2	30	
Trichloroethylene	49.2	1	ug/L	50.0	1.33	90.4	70-125	9.39	30	
Trichlorofluoromethane	35.2	1	ug/L	50.0	BLOD	72.3	60-145	21.0	30	
Vinyl chloride	36.7	0.5	ug/L	50.0	2.90	67.6	50-145	23.0	30	
Sum: 1,2-Dichloroethane-d4 (Sum)	43.2		ug/L	50.0		86.5	70-120			
Sum: 4-Bromofluorobenzene (Sum)	46.8		ug/L	50.0		93.6	75-120			
Sum: Dibromofluoromethane (Sum)	42.9		ug/L	50.0		85.9	80-119			
Sum: Toluene-d8 (Sum)	47.3		ug/L	50.0		94.5	85-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 890214 - 890215C

Blank (890214-890215)	Filtered, 04/02/2018 Analyzed, 04/18/2018									
1,2,4,5-Tetraclorobenzene	BL00	10.0	ug/L							
1,3,5-Trichlorobenzene	BL00	5.00	ug/L							
1,3-Dichlorobenzene	BL00	2.50	ug/L							
1,4-Hydroquinone	BL00	10.0	ug/L							
Mesitylene	BL00	10.0	ug/L							
1,2,4,6-Tetrachloropheny	BL00	10.0	ug/L							
2,4,6-Trichlorophenol	BL00	10.0	ug/L							
2,4,6-Trichlorophenol	BL00	10.0	ug/L							
2,4-Dichlorophenol	BL00	10.0	ug/L							
2,4-Dichlorophenol	BL00	10.0	ug/L							
1,4-Dichlorophenol	BL00	10.0	ug/L							
1,4-Dichlorophenol	BL00	10.0	ug/L							
2,6-Dichlorophenol	BL00	10.0	ug/L							
2,6-Dichlorophenol	BL00	10.0	ug/L							
2-Acetylaminofluorene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenol	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichlorobenzidine	BL00	10.0	ug/L							
2,7-Dimethylbenzidine	BL00	2.50	ug/L							
2-Methylimidazole	BL00	10.0	ug/L							
2-Nitroimidazole	BL00	20.0	ug/L							

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Semi-volatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 890214 - 890215C										
Blank (890214-BLANK) Prepared: 04/02/2018 Analyzed: 04/18/2018										
1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	10.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nonyl-4-sulfonate	BL00	10.0	ug/L							
1,12-Dibromodiphenyl (s) sulfonate	BL00	10.0	ug/L							
Azaphthalene	BL00	10.0	ug/L							
Azobenzene	BL00	10.0	ug/L							
Azobenzene	BL00	10.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzene (s) sulfonate	BL00	0.05	ug/L							
Benzene (s) sulfide	BL00	0.10	ug/L							
Benzene (s) Sulfonamide	BL00	10.0	ug/L							
Benzene (s) sulfone	BL00	10.0	ug/L							
Benzene (s) Sulfonamide	BL00	10.0	ug/L							
Benzyl alcohol	BL00	10.0	ug/L							
Is (2-Chloromethyl) methylene	BL00	10.0	ug/L							
Is (2-Chloromethyl) ether	BL00	10.0	ug/L							
1,7-Dicyclo (1-Phenylpropane)	BL00	10.0	ug/L							
Is (2-Ethylhexyl) phosphate	BL00	2.50	ug/L							
Butyl benzyl phosphate	BL00	10.0	ug/L							
Chlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 890014 - 890015										
Batch: 890014 - 890015										
Blank (890014-890015)										
Prepared: 04/09/2018 Analyzed: 04/18/2018										
Chrysen	BL00	10.0	ug/L							
Dibenz	BL00	2.50	ug/L							
Dibenz (a,h) anthracene	BL00	10.0	ug/L							
Fluorene	BL00	5.00	ug/L							
Diethyl phthalate	BL00	10.0	ug/L							
Dimethyl	BL00	2.50	ug/L							
Diethyl phthalate	BL00	10.0	ug/L							
Din-butyl phthalate	BL00	10.0	ug/L							
Hexyl phthalate	BL00	10.0	ug/L							
Diphenylene	BL00	10.0	ug/L							
Dibutyl	BL00	2.50	ug/L							
Ethyl methoxyacetate	BL00	20.0	ug/L							
Ethyl parathion	BL00	2.50	ug/L							
Forflos	BL00	2.00	ug/L							
Fluoranthene	BL00	10.0	ug/L							
Fluorene	BL00	10.0	ug/L							
Hexachlorobenzene	BL00	5.00	ug/L							
Hexachlorobutadiene	BL00	10.0	ug/L							
Hexachlorocyclopentadiene	BL00	10.0	ug/L							
Hexachloroethane	BL00	10.0	ug/L							
Hexachloropropene	BL00	2.00	ug/L							
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L							
Isobut	BL00	10.0	ug/L							
Isophenol	BL00	10.0	ug/L							
Isoprene	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 880014 - 880015										
Blank (880014-88015) Prepared: 04/09/2018 Analyzed: 04/18/2018										
Acetone	BL00	2.50	ug/L							
m,p-Creosol	BL00	10.0	ug/L							
Methoxytolene	BL00	10.0	ug/L							
Methyl methoxytolene	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitroindole	BL00	2.50	ug/L							
n-Nitrodimethylaniline	BL00	10.0	ug/L							
n-Nitrodi-n-butylamine	BL00	10.0	ug/L							
n-Nitrodi-n-octylamine	BL00	10.0	ug/L							
n-Nitroethylaniline	BL00	10.0	ug/L							
n-Nitrosodimethylaniline	BL00	2.50	ug/L							
n-Nitropropylamine	BL00	10.0	ug/L							
n-Nitrosotoluene	BL00	2.50	ug/L							
o,o-Diethyl phosphorothioate	BL00	10.0	ug/L							
o,o-Diethyl n-P-cyanetyl phosphorothioate	BL00	10.0	ug/L							
o-m,p-Creosol	BL00	10.0	ug/L							
n-Creosol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetone	BL00	2.50	ug/L							
p-Chloro-m-cresol	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachloronitrobenzene (quinoline)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: B000114 - B00150										
Blank (B000114-B00150)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phenols	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	67.0		ug/L	100		67.0	20-66			
Sum: 2-Fluorobiphenyl (Sum)	38.8		ug/L	50.0		77.1	23-87			
Sum: 2-Fluorophenol (Sum)	48.9		ug/L	100		48.9	10-52			
Sum: Nitrobenzene-d5 (Sum)	35.9		ug/L	50.0		71.8	10-68.5			
Sum: Phenol-d5 (Sum)	30.2		ug/L	100		30.2	5-33			
Sum: p-Terphenyl-d14 (Sum)	30.1		ug/L	50.0		60.2	27-133			
LCS (B000154-B01)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	35.8	10.0	ug/L	50.0		73.7	21.8-66.7			L
1,2-Dichlorobenzene	35.6	10.0	ug/L	50.0		71.2	22-60			L
1,3-Dichlorobenzene	33.2	10.0	ug/L	50.0		66.5	22-60			L
1,4-Dichlorobenzene	34.7	10.0	ug/L	50.0		69.5	13-68			L
1-Chloronaphthalene	39.9	10.0	ug/L	50.0		79.8	9-200			
2,4,6-Trichlorophenol	36.8	10.0	ug/L	50.0		73.6	50-119			
2,4-Dichlorophenol	41.1	10.0	ug/L	50.0		82.2	50-108			
2,4-Dimethylphenol	38.8	0.50	ug/L	50.0		77.6	50-119			
2,4-Dinitrophenol	48.3	50.0	ug/L	50.0		96.6	15-140			
2,4-Dinitrotoluene	45.7	10.0	ug/L	50.0		91.4	21-88			

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC Limit	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900114 - 8900115										
LC8 (8900114-891)										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	36.3	10.0	ug/L	50.0		75.0	15-140			
1-Chloroacetylene	36.4	10.0	ug/L	50.0		75.0	40-120			
1-Chloroethane	36.1	10.0	ug/L	50.0		75.1	15-74			L
1-Propanol	39.2	10.0	ug/L	50.0		79.4	40-110			
1,1-Dichloroethylene	40.0	10.0	ug/L	50.0		80.0	20-110			
1,1-Dimethyl-2-methoxypropane	36.8	10.0	ug/L	50.0		77.6	40-130			
4-Bromophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.4	15-110			
4-Chlorophenyl phenyl ether	42.8	10.0	ug/L	50.0		87.7	15-110			
4-Nitrophenol	21.6	10.0	ug/L	50.0		43.0	0-105			
Acenaphthene	40.3	10.0	ug/L	50.0		80.6	27.7-85.3			
Acenaphthylene	40.5	10.0	ug/L	50.0		80.9	50-100			
Acenaphthylene	35.0	10.0	ug/L	50.0		69.9	0-200			
alpha-Terpinol	43.0	2.50	ug/L	50.0		86.0	0-200			
Anthracene	45.0	10.0	ug/L	50.0		90.2	55-110			
Benzo (a) anthracene	41.0	2.00	ug/L	50.0		82.0	55-110			
Benzo (a) pyrene	39.2	0.10	ug/L	50.0		78.4	50-110			
Benzo (b) fluoranthene	42.0	10.0	ug/L	50.0		84.0	40-120			
Benzo (g,h,i) perylene	36.0	10.0	ug/L	50.0		72.0	40-120			
Benzo (k) fluoranthene	38.4	10.0	ug/L	50.0		76.8	40-120			
Is (2-Chloromethyl) methane	38.3	10.0	ug/L	50.0		76.6	40-120			
Is (2-Chloromethyl) ether	38.0	10.0	ug/L	50.0		76.0	40-120			
1,7-Dioxin (1-chloropropane)	35.2	10.0	ug/L	50.0		70.4	40-120			
Is (2-Ethylhexyl) phthalate	34.0	2.50	ug/L	50.0		67.9	40-120			
Butyl benzyl phthalate	37.1	10.0	ug/L	50.0		74.2	40-110			
Carbazole	44.4	2.50	ug/L	50.0		88.8	0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 890614H - 890615C										
LOQ (890614-891)										
Prepared: 04/02/2018 Analyzed: 04/09/2018										
Chrysene	29.3	10.0	ug/L	50.0		79.6	55-110			
Dibenz (a,h) anthracene	24.0	10.0	ug/L	50.0		79.1	40-120			
Dibutyl phthalate	41.1	10.0	ug/L	50.0		82.2	40-120			
Dioctyl phthalate	24.9	10.0	ug/L	50.0		77.0	20-120			
Dioctyl phthalate	44.5	10.0	ug/L	50.0		89.0	55-110			
Di-n-octyl phthalate	44.4	10.0	ug/L	50.0		88.7	20-120			
Fluoranthene	45.6	10.0	ug/L	50.0		91.2	50-110			
Fluorene	42.2	10.0	ug/L	50.0		84.4	50-110			
Hexachlorobenzene	49.8	5.00	ug/L	50.0		80.7	25-120			
Hexachlorocyclopentadiene	43.7	10.0	ug/L	50.0		87.4	20-120			
Hexachlorocyclopentadiene	24.3	10.0	ug/L	50.0		48.6	20-120			
Hexachloroethane	34.9	10.0	ug/L	50.0		69.8	20-120			
Indeno (1,2,3-cd) pyrene	30.1	10.0	ug/L	50.0		79.3	40-120			
Isophthalate	33.0	10.0	ug/L	50.0		67.0	10-110			
Isophthalate	28.2	10.0	ug/L	50.0		79.6	40-100			
Nitrobenzene	33.4	10.0	ug/L	50.0		79.7	40-100			
m-Nitrodimethylaniline	27.1	10.0	ug/L	50.0		54.2	20-110			
m-Nitrodi-n-propylaniline	24.0	10.0	ug/L	50.0		72.1	10-87			
m-Nitrodiphenylamine	34.4	10.0	ug/L	50.0		68.8	10-87			
p-Chloro-m-cresol	41.5	10.0	ug/L	50.0		83.0	10-91			
Phenyl benzenophenone	40.4	20.0	ug/L	50.0		80.8	20-100			
Phenanthrene	39.0	10.0	ug/L	50.0		78.1	50-110			
Phenol	19.9	10.0	ug/L	50.0		39.8	0-100			
Pyrene	24.0	10.0	ug/L	50.0		48.0	27-110			
Pyridine	24.8	10.0	ug/L	50.0		49.6	0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B0001H - B0005C										
LO3 (B0001H-B0005C) Prepared: 04/05/2018 Analyzed: 04/09/2018										
Sum 2,4,6-Trichlorophenol (Sum)	81.8		ug/L	100		81.8	20-80			
Sum 2-Fluorophenyl (Sum)	41.8		ug/L	50.0		41.7	20-67			
Sum 3-Fluorophenyl (Sum)	58.8		ug/L	100		58.8	10-50			S
Sum Nitrobenzene-D7 (Sum)	41.2		ug/L	20.0		42.9	10-60.0			
Sum Phenol-D5 (Sum)	37.7		ug/L	100		37.7	5-33			S
Sum p-Nitrophenyl-D4 (Sum)	54.3		ug/L	50.0		54.3	27-133			
Matrix Spike (B0001H-B0005C) Source: B0001H-B0005C Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	43.8	10.8	ug/L	54.3	BLOD	78.7	21.8-66.7			M
1,2-Dichloroethane	41.7	10.8	ug/L	54.3	BLOD	76.7	22-60			M
1,3-Dichloroethane	56.0	10.8	ug/L	54.3	BLOD	71.6	22-60			M
1,1-Dibromoethane	43.8	10.8	ug/L	54.3	2.40	76.3	22-60			M
1-Chloronaphthalene	45.8	10.8	ug/L	54.3	BLOD	83.8	0-200			
2,4,6-Trichlorophenol	44.1	10.8	ug/L	54.3	BLOD	81.2	50-115			
1,4-Dichlorophenol	47.7	10.8	ug/L	54.3	BLOD	87.8	50-105			
2,4-Dimethylphenol	41.6	0.54	ug/L	54.3	BLOD	76.5	30-110			
1,4-Dinitrophenol	60.5	54.3	ug/L	54.3	BLOD	120	15-140			
1,4-Dinitrotoluene	52.8	10.8	ug/L	54.3	BLOD	90.8	15-111			
1,5-Dinitrotoluene	45.8	10.8	ug/L	54.3	BLOD	84.3	15-140			
2-Chloronaphthalene	44.3	10.8	ug/L	54.3	BLOD	81.8	40-100			
3-Chlorophenol	43.1	10.8	ug/L	54.3	BLOD	79.4	10-64			M
2-Nitrophenol	45.7	10.8	ug/L	54.3	BLOD	84.0	40-115			
1,3-Dichlorobenzene	58.8	10.8	ug/L	54.3	BLOD	54.8	20-110			
4,6-Dinitro-2-methylphenol	51.1	54.3	ug/L	54.3	BLOD	94.0	40-130			
4-Bromophenyl phenyl ether	62.8	10.8	ug/L	54.3	BLOD	97.3	15-110			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 180414H - 180418C

Matrix Spike (180414H-1817)	Source: 180414H-1817		Prepared: 04/02/2018 Analyzed: 04/09/2018							
4-Chlorophenyl phenyl ether	51.5	10.8	ug/L	54.3	BL00	94.8	15-110			
4-Nitrophenol	23.8	54.3	ug/L	54.3	BL00	44.0	0-120			
Acenaphthene	47.8	10.8	ug/L	54.3	BL00	88.2	24-90			
Acenaphthylene	48.0	10.8	ug/L	54.3	BL00	88.9	60-100			
Acenaphthene	38.2	21.7	ug/L	54.3	BL00	72.2	0-200			
alpha-Terpinene	51.8	8.17	ug/L	54.3	BL00	93.8	0-200			
Anthracene	49.8	10.8	ug/L	54.3	BL00	91.8	30-110			
Benz[e]anthracene	48.5	0.08	ug/L	54.3	BL00	89.2	55-110			
Benz[e]pyrene	48.4	8.17	ug/L	54.3	BL00	88.4	55-110			
Benz[b]fluoranthene	47.8	10.8	ug/L	54.3	BL00	87.8	40-120			
Benz[b]k[1,2,3-c]pyrene	44.1	10.8	ug/L	54.3	BL00	81.1	45-120			
Benz[a]fluoranthene	48.3	10.8	ug/L	54.3	BL00	90.7	45-120			
1,6-Dichloro-2-naphthol	44.7	10.8	ug/L	54.3	BL00	82.2	40-120			
1,6-Dichloro-2-naphthol	43.4	10.8	ug/L	54.3	BL00	79.8	40-120			
2,7-Diethyl-1-naphthol	28.9	10.8	ug/L	54.3	BL00	73.4	40-120			
1,6-Dichloro-2-naphthol	40.0	2.72	ug/L	54.3	BL00	78.1	40-120			
Butyl benzyl phthalate	44.4	10.8	ug/L	54.3	BL00	81.8	45-110			
Carbazole	55.8	2.72	ug/L	54.3	BL00	100	0-200			
Chrysene	47.2	10.8	ug/L	54.3	BL00	88.8	55-110			
Dibenz[a,h]anthracene	47.8	10.8	ug/L	54.3	BL00	88.1	40-120			
Dihydrotetralin	30.4	10.8	ug/L	54.3	1.97	88.8	40-120			
Dimethyl phthalate	44.8	10.8	ug/L	54.3	BL00	84.3	25-120			
Di-n-butyl phthalate	54.8	10.8	ug/L	54.3	BL00	101	55-110			
Di-n-octyl phthalate	51.8	10.8	ug/L	54.3	BL00	94.0	35-120			
Fluoranthene	50.8	10.8	ug/L	54.3	BL00	93.7	55-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 040218 - 040218										
Matrix Spike (040218-01)										
Source: 040218-01 Prepared: 04022018 Analyzed: 04022018										
Fluorene	49.2	10.8	ug/L	54.3	BLCO	90.8	50-110			
Fluoranthene	53.1	0.05	ug/L	54.3	BLCO	97.7	25-125			
Benzo[a]fluoranthene	52.2	10.8	ug/L	54.3	BLCO	96.0	25-125			
Benzo[b]fluoranthene	27.7	10.8	ug/L	54.3	BLCO	90.9	25-125			
Benzo[k]fluoranthene	41.8	10.8	ug/L	54.3	BLCO	76.8	25-125			
Benzo[e]pyrene	17.8	10.8	ug/L	54.3	BLCO	57.1	40-160			
Benzo[a]pyrene	26.1	10.8	ug/L	54.3	BLCO	71.8	10-110			
Benzo[a]anthracene	44.2	10.8	ug/L	54.3	BLCO	81.5	40-160			
Indeno[1,2,3-cd]perylene	44.8	10.8	ug/L	54.3	BLCO	82.0	40-160			
1-methylanthracene	27.8	10.8	ug/L	54.3	BLCO	51.1	25-110			
1-methyl-2-naphthol	40.8	10.8	ug/L	54.3	BLCO	75.2	15-87			
1-methyl-3-naphthol	34.9	10.8	ug/L	54.3	BLCO	72.7	15-87			
2-Chloro-naphthalene	42.1	10.8	ug/L	54.3	BLCO	80.4	10-81			
2-methyl-naphthalene	99.0	21.7	ug/L	54.3	BLCO	109	27-109			B
Phenanthrene	49.0	10.8	ug/L	54.3	BLCO	90.2	50-110			
Phenol	20.2	10.8	ug/L	54.3	BLCO	37.0	0-105			
Pyrene	35.7	10.8	ug/L	54.3	BLCO	65.7	25-110			
Pyrene	26.1	10.8	ug/L	54.3	BLCO	51.6	0-200			
Sum: 2,4,6-Trinitrophenol (Sum)	100		ug/L	100		93.8	20-60			B
Sum: 2-Fluorophenyl (Sum)	47.8		ug/L	54.3		87.8	23-87			B
Sum: 3-Fluorophenyl (Sum)	46.4		ug/L	100		46.8	15-55			
Sum: Nitrobenzene(s) (Sum)	49.0		ug/L	54.3		90.8	10-90.8			
Sum: Phenol(s) (Sum)	26.0		ug/L	100		24.8	1-12			B
Sum: p-Nitrophenol(s) (Sum)	26.1		ug/L	54.3		70.7	27-120			

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 180414H - 180415C										
Main: Spike Spg (180414H-180415C)										
Source: 180414-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,2-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	72.8	21.8-88.7	7.75	20	NS
1,3-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	71.8	22-85	8.26	20	NS
1,4-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	88.8	22-91	8.58	20	NS
1,4-Dibromobenzene	40.8	10.8	ug/L	34.3	BLW	70.8	22-90	7.22	20	NS
1-Chloroacetylene	41.4	10.8	ug/L	34.3	BLCO	78.7	0-200	8.85	20	
1,4-d. Trinitrobenzene	40.8	10.8	ug/L	34.3	BLCO	73.7	50-115	8.88	20	
2,4-Dichlorophenol	43.1	10.8	ug/L	34.3	BLCO	79.3	20-100	79.2	20	
2,4-Dimethylphenol	36.2	9.24	ug/L	34.3	BLCO	88.5	30-110	14.3	20	
2,4-Dibromophenol	88.8	34.8	ug/L	34.3	BLCO	112	10-140	7.44	20	
2,4-Dinitrobenzene	47.8	10.8	ug/L	34.3	BLCO	88.7	12-111	8.28	20	
2,6-Dinitrobenzene	41.4	10.8	ug/L	34.3	BLCO	78.7	18-148	10.3	20	
2-Chloroacetylene	41.2	10.8	ug/L	34.3	BLCO	74.7	45-105	8.58	20	
2-Chlorophenol	38.8	10.8	ug/L	34.3	BLCO	72.8	18-84	8.45	20	NS
2-Nitrophenol	41.3	10.8	ug/L	34.3	BLCO	78.7	40-115	9.82	20	
2,2'-Dichlorodiphenyl ether	28.8	70.8	ug/L	14.3	BLCO	48.8	20-110	11.7	20	
4,4-Dinitro-2-methylphenol	47.2	34.2	ug/L	34.3	BLCO	88.8	40-130	7.75	20	
4-Bromophenyl phenyl ether	47.8	10.8	ug/L	34.3	BLCO	88.4	18-118	11.5	20	
4-Chlorophenyl phenyl ether	45.8	10.8	ug/L	34.3	BLCO	82.8	18-118	12.2	20	
4-Nitrophenol	22.8	54.3	ug/L	34.3	BLCO	41.8	0-128	5.58	20	
Acenaphthene	43.2	10.8	ug/L	34.3	BLCO	78.8	24-90	10.3	20	
Acenaphthylene	42.8	10.8	ug/L	34.3	BLCO	78.0	20-100	11.1	20	
Acetylphenone	38.2	21.7	ug/L	34.3	BLCO	88.8	0-200	8.07	20	
alpha-Terpinene	88.8	2.73	ug/L	34.3	BLCO	84.2	0-200	10.8	20	
Anthracene	48.8	10.8	ug/L	34.3	BLCO	82.8	50-110	8.88	20	
Benz[a]anthracene	45.4	0.08	ug/L	34.3	BLCO	82.8	50-110	8.88	20	

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: 8800114 - 8800100										
Main: Spike Exp (8800114-8800100)										
Source: 180819-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Benzene (6) pyrene	44.0	0.71	ug/L	54.3	BL00	67.0	55-110	5.29	20	
Benzene (6) fluoranthene	43.8	10.9	ug/L	54.3	BL00	60.8	45-130	8.48	20	
Benzene (6) fluorene	41.0	10.9	ug/L	54.3	BL00	75.8	40-125	7.18	20	
Benzene (6) fluoranthene	47.6	10.9	ug/L	54.3	BL00	68.0	45-120	9.00	20	
1a (2-Dimethylamino) naphthalene	40.2	10.9	ug/L	54.3	BL00	73.8	40-120	10.7	20	
1a (2-Cyanoethyl) ester	40.1	10.9	ug/L	54.3	BL00	72.7	40-120	7.90	20	
2,2'-Dicyclo (1-Trichloropropene)	36.9	10.9	ug/L	54.3	BL00	67.8	40-120	7.20	20	
1a (2-Ethylamino) pyrene	37.0	2.72	ug/L	54.3	BL00	68.8	40-120	12.3	20	
Butyl benzyl phthalate	46.4	16.9	ug/L	54.3	BL00	74.0	45-115	9.44	20	
Carbazole	53.0	2.72	ug/L	54.3	BL00	66.4	0-200	5.67	20	
Chrysene	40.1	10.9	ug/L	54.3	BL00	70.0	55-110	9.20	20	
1-Benz (a,h) anthracene	44.8	10.9	ug/L	54.3	BL00	62.4	40-120	8.88	20	
Diallyl phthalate	45.5	10.9	ug/L	54.3	1.87	60.8	40-120	10.3	20	
Dimethyl phthalate	40.7	10.9	ug/L	54.3	BL00	74.0	20-120	71.8	20	
D,n-butyl phthalate	50.2	10.9	ug/L	54.3	BL00	60.0	55-110	8.60	20	
Di-n-octyl phthalate	47.9	10.9	ug/L	54.3	BL00	68.2	30-130	7.47	20	
Fluoranthene	40.8	10.1	ug/L	54.3	BL00	70.2	50-110	8.85	20	
Fluorene	44.4	10.9	ug/L	54.3	BL00	61.8	50-110	10.3	20	
Hexachlorobenzene	47.0	0.08	ug/L	54.3	BL00	68.8	25-120	11.7	20	
Hexachlorobutadiene	47.8	10.9	ug/L	54.3	BL00	68.0	25-120	8.78	20	
Hexachloro(cyclopentadiene)	23.8	10.9	ug/L	54.3	BL00	63.0	20-120	16.1	20	
Hexachloroethane	27.9	10.9	ug/L	54.3	BL00	60.8	20-120	9.24	20	
Indeno (1,2,3-cd) pyrene	44.3	10.9	ug/L	54.3	BL00	61.4	40-120	8.87	20	
Isophthalate	35.8	10.9	ug/L	54.3	BL00	66.8	10-110	8.77	20	
Naphthalene	40.7	10.9	ug/L	54.3	BL00	74.8	40-100	8.28	20	

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: 88001H - 88001C										
Main: Spike Drop (88001H-88001C)										
	Source: 88001H-81			Prepared: 04/09/2018 Analyzed: 04/09/2018						
Nitrobenzene	41.3	10.8	ug/L	54.3	BLOD	79.8	40-100	7.88	20	
m-Nitrodimethylamine	29.2	10.8	ug/L	54.3	BLOD	48.2	25-110	5.71	20	
m-Nitroo-n-propylamine	37.8	10.8	ug/L	54.3	BLOD	88.8	13-87	7.42	20	
n-Nitroodiphenylamine	90.9	10.8	ug/L	54.3	BLOD	68.9	12-87	10.7	20	
p-Chloroaniline	44.3	10.8	ug/L	54.3	BLOD	81.5	10-91	10.3	20	
Para-chlorophenol	54.8	21.7	ug/L	54.3	BLOD	101	27-109	8.12	20	
Phenanthrene	42.9	10.8	ug/L	54.3	BLOD	79.0	50-115	8.91	20	
Pyrene	19.5	10.8	ug/L	54.3	BLOD	33.7	0-115	9.25	20	
Pyrene	19.5	10.8	ug/L	54.3	BLOD	59.2	23-110	10.5	20	
Pyrene	21.8	10.8	ug/L	54.3	BLOD	43.5	0-200	17.4	20	
Sum 2,4,6-Trinitrophenol (Sum)	88.9		ug/L	100		81.7	20-60			
Sum 2-Fluorobiphenyl (Sum)	42.7		ug/L	54.3		78.6	23-67			
Sum 2-Fluorophenol (Sum)	43.8		ug/L	100		40.1	10-52			
Sum Nitrobenzenesulf (Sum)	41.5		ug/L	54.3		75.5	10-98.5			
Sum Phenol-sulf (Sum)	21.8		ug/L	100		31.1	5-33			
Sum p-Topoleptolol (Sum)	34.9		ug/L	54.3		64.2	27-133			

Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
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Date Issued: 4/18/2018 4:07:27PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch #000181 - 000180

Blank #000181-000180	Prepared: 04/09/2018 Analyzed: 04/18/2018									
4,4'-DDE	BL00	0.050	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.050	ug/L							
PCB as Aroclor 1212	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.050	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.050	ug/L							
beta-BHC	BL00	0.050	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
gamma-BHC (Lindane)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limits	RPD	RPD Limit	Qual
Batch: 8800181 - 8800190										
Batch: 8800181-8800190										
Prepared: 04/05/2018 Analyzed: 04/05/2018										
Toxaphene	BLD	1.00	ug/L							
Sum DCB	0.100		ug/L	0.200		80.0	20-100			
Sum PCDD	0.100		ug/L	0.200		80.0	20-100			
Sum TCDF	0.140		ug/L	0.200		70.0	18-112			
Sum PCB	0.140		ug/L	0.200		70.0	27-131			
LOB (8800181-8800190)										
Prepared: 04/05/2018 Analyzed: 04/05/2018										
L-F DDD	0.080	0.050	ug/L	0.100		80.0	23-134			
L-F DDE	0.090	0.050	ug/L	0.100		90.0	23-134			
L-F DDT	0.070	0.050	ug/L	0.100		70.0	23-134			
Alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
Gamma-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Delta	0.090	0.050	ug/L	0.100		80.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
Exin	0.080	0.050	ug/L	0.100		80.0	23-134			
Exin sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.080	0.050	ug/L	0.100		80.0	23-134			
Mirex	0.070	0.050	ug/L	0.100		70.0	23-134			

Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18041811 - 18041810										
LOS (8800181-881)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Sum PCMX	0.130		ug/L	0.200		75.0	18-112			
Sum OCB	0.140		ug/L	0.200		70.0	27-131			
LOS (8800181-882)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	0.530	0.200	ug/L	1.00		53.0	40-90			
PCB as Aroclor 1260	0.560	0.200	ug/L	1.00		56.0	40-90			
Sum OCB	0.100		ug/L	0.200		50.0	30-105			
Sum PCMX	0.100		ug/L	0.200		50.0	30-105			
LOS (8800181-883)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Total PCBs	1.05	1.00	ug/L	2.50		74.0	23-134			
Sum PCMX	0.130		ug/L	0.200		65.0	18-112			
Sum OCB	0.120		ug/L	0.200		60.0	27-131			
LOS (8800181-884)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Total PCBs	1.74	0.200	ug/L	2.00		87.0	23-134			
Sum PCMX	0.130		ug/L	0.200		60.0	18-112			
Sum OCB	0.120		ug/L	0.200		60.0	27-131			
Mark Spike (8800181-885)										
				Source: 18041811-01 Prepared: 04/09/2018 Analyzed: 04/09/2018						
4,4'-DDE	0.128	0.050	ug/L	0.100	BL00	128	23-134			
4,4'-DDE	0.170	0.050	ug/L	0.100	BL00	168	23-134			W
4,4'-DDT	0.126	0.050	ug/L	0.100	BL00	126	23-134			
Aroclor	0.090	0.050	ug/L	0.100	BL00	90.0	23-134			
alpha-BHC	0.148	0.050	ug/L	0.100	BL00	148	23-134			W
beta-BHC	0.170	0.050	ug/L	0.100	BL00	168	23-134			W

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:07:27PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 1802181 - 180218C										
Matrix Spike (1802181-MS1)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Endosulfan-C	0.106	0.053	ug/L	0.106	BLOD	100	25-134			
Desferal	0.100	0.050	ug/L	0.106	BLOD	750	25-134			M
Endosulfan I	0.095	0.048	ug/L	0.106	BLOD	80.0	25-134			
Endosulfan II	0.100	0.050	ug/L	0.106	BLOD	100	25-134			
Endosulfan sulfate	0.125	0.063	ug/L	0.106	BLOD	120	25-134			
Evans	0.120	0.060	ug/L	0.106	BLOD	120	25-134			
Endrin aldehyde	0.085	0.043	ug/L	0.106	BLOD	80.0	25-134			
gamma-BHC (Lindane)	0.104	0.052	ug/L	0.106	BLOD	100	25-134			
Heptachlor	0.117	0.059	ug/L	0.106	BLOD	110	25-134			
Heptachlor epoxide	0.117	0.059	ug/L	0.106	BLOD	110	25-134			
Methoxychlor	0.120	0.060	ug/L	0.106	BLOD	120	25-134			
Mirex	0.074	0.037	ug/L	0.106	BLOD	70.0	25-134			
Sum PCMX	0.128		ug/L	0.212		65.0	18-112			
Sum PCB	0.181		ug/L	0.212		90.0	27-131			
Matrix Spike (1802181-MS2)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
PCB as Aroclor 1218	1.10	0.220	ug/L	1.10	BLOD	101	40-120			M
PCB as Aroclor 1260	1.09	0.220	ug/L	1.10	BLOD	99.0	40-120			
Sum PCB	0.140		ug/L	0.220		85.0	20-100			
Sum PCMX	0.137		ug/L	0.220		80.0	20-100			
Matrix Spike Dup (1802181-MSD1)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
4,4'-DDE	0.098	0.049	ug/L	0.106	BLOD	80.0	25-134	28.0	20	P
4,4'-DDE	0.129	0.064	ug/L	0.106	BLOD	100	25-134	27.8	20	P
4,4'-DDT	0.098	0.049	ug/L	0.106	BLOD	80.0	25-134	28.0	20	P
Aldrin	0.075	0.037	ug/L	0.106	BLOD	70.0	25-134	21.8	20	P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch #800181 - 800180										
Matrix Spike Dup (800181-800180) Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
alpha-BHC	0.075	0.054	ug/L	0.100	BLGD	70.0	25-134	65.7	20	P
beta-BHC	0.108	0.054	ug/L	0.100	BLGD	100	25-134	49.1	20	P
gamma-BHC	0.088	0.054	ug/L	0.100	BLGD	80.0	25-134	21.2	20	P
Delta	0.119	0.054	ug/L	0.100	BLGD	119	25-134	29.7	20	P
Endosulfan I	0.060	0.054	ug/L	0.100	BLGD	60.0	25-134	27.8	20	P
Endosulfan II	0.070	0.054	ug/L	0.100	BLGD	70.0	25-134	24.2	20	P
Endosulfan sulfate	0.075	0.054	ug/L	0.100	BLGD	70.0	25-134	51.8	20	P
Epoxin	0.097	0.054	ug/L	0.100	BLGD	90.0	25-134	27.5	20	P
Endrin aldehyde	0.085	0.054	ug/L	0.100	BLGD	80.0	25-134	27.5	20	P
gamma-BHC (Lindane)	0.088	0.054	ug/L	0.100	BLGD	80.0	25-134	21.2	20	P
Heptachlor	0.097	0.054	ug/L	0.100	BLGD	90.0	25-134	18.8	20	
heptachlor epoxide	0.075	0.054	ug/L	0.100	BLGD	70.0	25-134	43.4	20	P
Methoxychlor	0.100	0.054	ug/L	0.100	BLGD	100	25-134	17.1	20	
Mirex	0.060	0.054	ug/L	0.100	BLGD	60.0	25-134	14.2	20	
Sum TCDD	0.100		ug/L	0.218		60.0	18-112			
Sum DCB	0.140		ug/L	0.218		60.0	27-131			
Matrix Spike Dup (800181-800180) Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
PCB as Aroclor 1018	2.38	0.220	ug/L	1.10	BLGD	217	40-130	12.7	20	M
PCB as Aroclor 1260	0.998	0.220	ug/L	1.10	BLGD	87.0	40-130	12.8	20	
Sum DCB	0.140		ug/L	0.207		60.0	20-100			
Sum TCDF	0.132		ug/L	0.220		60.0	20-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0203 - SW3510C										
Blank (BBD0203-BLK1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Permethylenophenol	BLOD	0.500	ug/L							
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
LCB (BBD0203-BL1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.389	0.500	ug/L	0.500		70.0	53-144			
2,4,5-TP (Silvex)	0.550	0.500	ug/L	0.500		90.0	52-129			
2,4-D	0.811	0.500	ug/L	0.500		110	53-126			
Dinoseb	0.555	0.500	ug/L	0.500		60.0	60-137			L
Permethylenophenol	0.389	0.500	ug/L	0.500		70.0	52-124			
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M51)										
					Source: 18041984-01 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.500	0.500	ug/L	0.500	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.444	0.500	ug/L	0.500	BLOD	80.0	52-129			
2,4-D	0.500	0.500	ug/L	0.500	BLOD	90.0	53-126			
Dinoseb	0.555	0.500	ug/L	0.500	BLOD	60.0	60-137			M
Permethylenophenol	0.500	0.500	ug/L	0.500	BLOD	70.0	52-124			
Sum OCAs (Sum)	1.50		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M52)										
					Source: 18041984-01 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.444	0.500	ug/L	0.500	BLOD	80.0	53-144			
2,4,5-TP (Silvex)	0.555	0.500	ug/L	0.500	BLOD	100	52-129			

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Organizations Participates by OQSCD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1802021 - 180210C										
Matrix Spike (1802021-MS1)										
Source: 1802021-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4-D	0.598	0.500	ug/L	0.598	BLDG	100	93-128			
Diuron	0.444	0.500	ug/L	0.598	BLDG	80.0	80-137			
Permethrin/phenol	0.000	0.500	ug/L	0.598	BLDG	80.0	82-124			
Sum OCAs (Sum)	1.02		ug/L	1.17		100	89-112			
Matrix Spike Dup (1802021-MS2)										
Source: 1802101-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.444	0.500	ug/L	0.598	BLDG	80.0	82-144	11.8	20	
2,4,5-TP (Diuron)	0.444	0.500	ug/L	0.550	BLDG	80.0	82-120	0.00	20	
2,4-D	0.500	0.500	ug/L	0.598	BLDG	80.0	93-128	0.00	20	
Diuron	0.333	0.500	ug/L	0.598	BLDG	80.0	80-137	0.00	20	M
Permethrin/phenol	0.000	0.500	ug/L	0.598	BLDG	70.0	82-124	0.00	20	
Sum OCAs (Sum)	1.72		ug/L	1.17		100	89-112			B
Matrix Spike Dup (1802021-MS3)										
Source: 1802021-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.598	0.500	ug/L	0.598	BLDG	80.0	82-144	0.00	20	
2,4,5-TP (Diuron)	0.500	0.500	ug/L	0.550	BLDG	80.0	82-120	10.5	20	
2,4-D	0.500	0.500	ug/L	0.550	BLDG	90.0	93-128	10.5	20	
Diuron	0.389	0.500	ug/L	0.598	BLDG	70.0	80-137	13.1	20	
Permethrin/phenol	0.444	0.500	ug/L	0.598	BLDG	80.0	82-124	11.8	20	
Sum OCAs (Sum)	1.80		ug/L	1.17		80.0	89-112			

Certificate of Analysis

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Micro-estimation by CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 18040200 - 3/27/17										
Blank (18040200-BL01) Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	BL00	0.010	ug/L							
1,2,3-Trichloropropane	BL00	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL00	0.010	ug/L							
LC8 (18040200-01) Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.176	0.010	ug/L	0.150		111	65-135			
1,2,3-Trichloropropane	0.244	0.010	ug/L	0.250		97.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.324	0.010	ug/L	0.350		130	65-135			
LC8 Dup (18040200-02) Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.318	0.010	ug/L	0.350		126	65-135	12.5	20	
1,2,3-Trichloropropane	0.269	0.010	ug/L	0.250		104	65-135	5.95	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.500	0.010	ug/L	0.350		141	65-135	8.61	20	L
Main Spike (18040200-M01) Source: 1804174-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.227	0.010	ug/L	0.248	BL00	91.7	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.258	0.010	ug/L	0.248	BL00	120	65-135			
Main Spike (18040200-M02) Source: 18040200-01 Prepared: 04/10/2018 Analyzed: 04/10/2018										
1,2-Dibromoethane (DBE)	0.263	0.010	ug/L	0.248	BL00	108	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.010	ug/L	0.248	BL00	108	65-135			
Main Spike Dup (18040200-M03) Source: 1804174-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.264	0.010	ug/L	0.248	BL00	108	65-135	10.1	20	
1,2,3-Trichloropropane	0.188	0.010	ug/L	0.248	BL00	83.2	65-135	5.45	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.280	0.010	ug/L	0.248	BL00	158	65-135	27.4	20	M, P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Micro-analyses by CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch: 18042001 - 180421

Matrix Spike (mg) (18042001-180421)	Source: 18042001-01	Prepared: 04/09/2018	Analyzed: 04/10/2018							
1,2-Dichloroethane (DCE)	0.199	0.010	ug/L	0.248	BLDG	79.0	85-135	32.8	20	P
1,1,1-Trichloroethane	0.192	0.010	ug/L	0.248	BLDG	89.3	85-135	14.2	20	P
1,2-Dichloro-3-chloropropane (DCCP)	0.164	0.010	ug/L	0.248	BLDG	88.2	85-135	48.7	20	P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual	
Batch BR00218 - No Prep Wet Chem											
Blank (BR00218-BLANK)	Prepared & Analyzed: 04/09/2018										
Sulfide	BLOD	1.00	mg/L								
LCS (BR00218-887)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.21	1	mg/L	0.00		91.2	80-120				
LCS Dup (BR00218-8901)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.34	1	mg/L	0.00		81.8	80-120	0.003	20		
Matrix Spike (BR00218-891)	Source: BR00218-81				Prepared & Analyzed: 04/09/2018						
Sulfide	4.32	1.00	mg/L	0.00	BLOD	88.8	75-125				
Matrix Spike Dup (BR00218-8927)	Source: BR00218-81				Prepared & Analyzed: 04/09/2018						
Sulfide	4.36	1.00	mg/L	0.00	BLOD	87.8	75-125	1.38	20		
Batch BR00204 - No Prep Wet Chem											
Blank (BR00204-BLANK)	Prepared & Analyzed: 04/11/2018										
Cyanide	BLOD	0.01	mg/L								
LCS (BR00204-884)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.27	0.01	mg/L	0.250		108	80-120				
LCS Dup (BR00204-8901)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.26	0.01	mg/L	0.250		111	80-120	2.84	20		
Matrix Spike (BR00204-891)	Source: BR00204-81				Prepared & Analyzed: 04/11/2018						
Cyanide	0.30	0.01	mg/L	0.250	BLOD	120	80-120			M	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 180324 - Wet Chem Wet Chem

Matrix Spike Conc (180324-1803)	Source: 180324-01	Received & Analyzed: 04/11/2018							
Cyanide	0.35	0.01 mg/L	0.250	BLDG	100	80-120	7.00	20	10

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:07:27PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Non-Chromium Analysis					
180019-01	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
Semi-volatile Organic Compounds by GC/MS					
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides by GC/ECD					
1800114-02	500 mL / 10.00 mL	SW60104	SW000001	SW000445	AC000011
Metals Organic Compounds by GC/MS					
1800114-01	5.00 mL / 0.50 mL	SW60008	SW001001	SW001449	AC000012
1800114-02	5.00 mL / 0.50 mL	SW60008	SW001001	SW001449	AC000012
1800114-03	5.00 mL / 0.50 mL	SW60008	SW001001	SW001449	AC000012
Metals (Total) by EPA 8220/7000 Series Methods					
1800114-01	250 mL / 20.0 mL	SW74704	SW000001	SW000038	AC000009
1800114-02	250 mL / 20.0 mL	SW74704	SW000001	SW000038	AC000009
Metals (Inorganic) by GC/ECD					
1800114-01	50.0 mL / 2.00 mL	SW60011	SW000000	SW000190	AC000066
1800114-02	50.0 mL / 2.00 mL	SW60011	SW000000	SW000190	AC000066
1800114-03	50.0 mL / 2.00 mL	SW60011	SW000000	SW000190	AC000066

Certificate of Analysis

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
EM6110C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM6030A in Non-Potable Water	
Antimony	VELAPNC.WVDEP
Arsenic	VELAPWDEP
Thallium	VELAPWVDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WVDEP
EM6011 in Non-Potable Water	
1,2-Dibromoethane (DBE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-5-chloropropane (DBCP)	VELAPNC
EM6018 in Non-Potable Water	
4,4'-DDD	NC.VELAPWVDEP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
1,1-DCE	NC,VELAP,WYDEP
1,1-DOT	NC,VELAP,WYDEP
Atrix	NC,VELAP,WYDEP
alpha-BHC	NC,VELAP,WYDEP
beta-BHC	NC,VELAP,WYDEP
Chlordane	NC,VELAP,WYDEP
delta-BHC	NC,VELAP,WYDEP
Dieldrin	NC,VELAP,WYDEP
Endosulfan I	NC,VELAP,WYDEP
Endosulfan II	NC,VELAP,WYDEP
Endosulfan sulfate	NC,VELAP,WYDEP
Endrin	NC,VELAP,WYDEP
Endrin aldehyde	NC,VELAP,WYDEP
gamma-BHC (Lindane)	NC,VELAP,WYDEP
Heptachlor	NC,VELAP,WYDEP
Heptachlor epoxide	NC,VELAP,WYDEP
Methoxychlor	NC,VELAP,WYDEP
Toxaphene	NC,VELAP,WYDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WYDEP
PCB as Aroclor 1221	VELAP,NC,WYDEP
PCB as Aroclor 1232	VELAP,NC,WYDEP
PCB as Aroclor 1242	VELAP,NC,WYDEP
PCB as Aroclor 1248	VELAP,NC,WYDEP
PCB as Aroclor 1254	VELAP,NC,WYDEP
PCB as Aroclor 1260	VELAP,NC,WYDEP
EMBTGA in Non-Potable Water	
2,4,5-T	VELAP,NC

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silox)	VELAPNC
2,4-D	VELAPNC
Creosol	VELAPNC
Pentachlorophenol	VELAPNC
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropane	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MIBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, VELAP, WYDEP
Benzene	NC, VELAP, WYDEP
Bromochloromethane	NC, VELAP, WYDEP
Bromodichloromethane	NC, VELAP, WYDEP
Bromoform	NC, VELAP, WYDEP
Bromomethane	NC, VELAP, WYDEP
Carbon disulfide	NC, VELAP, WYDEP
Carbon tetrachloride	NC, VELAP, WYDEP
Chlorobenzene	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethyl methylsulfide	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Hexachlorobutadiene	NC, VELAP, WYDEP
Iodomethane	NC, VELAP, WYDEP
Isobutyl Alcohol	NC, VELAP, WYDEP
m,p-Xylenes	NC, VELAP, WYDEP
Methacrylonitrile	NC, VELAP, WYDEP
Methyl methacrylate	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
EMBTSS in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC,VELAP,WVDEP
1,3,5-Trinitrobenzene	NC,VELAP,WVDEP
1,3-Dinitrobenzene	NC,VELAP,WVDEP
1,4-Naphthoquinone	NC,VELAP,WVDEP
1-Naphthylamine	NC,VELAP,WVDEP
2,3,4,6-Tetrachlorophenol	NC,VELAP,WVDEP
2,4,5-Trichlorophenol	NC,VELAP,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,VELAP,WVDEP
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,VELAP,WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
2-Chlorophenol	NC, VELAP, WYDEP
2-Chlorophenol	NC, VELAP, WYDEP
2-Methylnaphthalene	NC, VELAP, WYDEP
2-Naphthylamine	NC, VELAP, WYDEP
2-Nitroaniline	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
3,3'-Dichlorobenzidine	NC, VELAP, WYDEP
3,3'-Dimethylbenzidine	NC, VELAP, WYDEP
3-Methylcholanthrene	NC, VELAP, WYDEP
3-Nitroaniline	NC, VELAP, WYDEP
4-Benzothiazyl phenyl ether	NC, VELAP, WYDEP
4-Chlorophenyl phenyl ether	NC, VELAP, WYDEP
4-Nitroaniline	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro-o-toluidine	NC, VELAP, WYDEP
7,7'-Dimethylbenz (a) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benzo (a) anthracene	NC, VELAP, WYDEP
Benzo (a) pyrene	NC, VELAP, WYDEP
Benzo (b) fluoranthene	NC, VELAP, WYDEP
Benzo (g,h,i) perylene	NC, VELAP, WYDEP
Benzo (k) fluoranthene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
2,2-Deylis (1-chloropropene)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chloroacrylate	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Dodecane	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dodecane	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Indene (1,2,3-ind) pyrene	NC, VELAP, WYDEP
Isodrin	NC, VELAP, WYDEP
Isophrone	NC, VELAP, WYDEP
Isosabine	NC, VELAP, WYDEP
Ketone	NC, VELAP, WYDEP
m-p-Cresol	NC, VELAP, WYDEP
Methoxyflene	NC, VELAP, WYDEP
Methyl methanesulfonate	NC, VELAP, WYDEP
Methyl parathion	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
Nitrobenzene	NC, VELAP, WYDEP
n-Nitrosodibutylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitrosod-n-butylamine	NC, VELAP, WYDEP
n-Nitrosod-n-propylamine	NC, VELAP, WYDEP
n-Nitrosodiphenylamine	NC, VELAP, WYDEP
n-Nitrosomethylbutylamine	NC, VELAP, WYDEP
n-Nitrosopiperidine	NC, VELAP, WYDEP
n-Nitrosopyrrolidine	NC, VELAP, WYDEP
o,o'-Diethyl phosphorothioate	NC, VELAP, WYDEP
o,o'-Diethyl o-2-pyridyl phosphorothioate	NC, VELAP, WYDEP
o-m-p-Cresol	VELAP, WYDEP
o-Cresol	NC, VELAP, WYDEP
o-Toluidine	NC, VELAP, WYDEP
p-(Dimethylamino) azobenzene	NC, VELAP, WYDEP
p-Chloro-m-cresol	NC, VELAP, WYDEP
Pentachlorobenzene	NC, VELAP, WYDEP
Pentachloronitrobenzene (quinazone)	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Phenacetic	NC VELAP/WVDEP
Phenanthrene	NC VELAP/WVDEP
Phenol	NC VELAP/WVDEP
Phenols	NC VELAP/WVDEP
p-Phenylenediamine	NC VELAP/WVDEP
Pyrene	NC VELAP/WVDEP
Soluble	NC VELAP/WVDEP
SM9128 in Non-Potable Water	
County	VELAP
SM9219 in Non-Potable Water	
County	VELAP

Code	Description	Exp. Number	Expires
MD208	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	460	12/31/2018
VELAP Certificate #4337	VELAP/Virginia Certificate #6000	49(02)	09/14/2018
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Qualifiers and Definitions

- C Continuing calibration verification response for this analyte is outside specifications.
- Cl Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
- E Estimated concentration, outside calibration range
- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- S Surrogate recovery was outside acceptance criteria

- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLDD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Analytes 1016, 1021, 1022, 1048, 1054, 1060, 1062, and 1066.



1841 REYNOLT ROAD
 RICHMOND, VIRGINIA 23237
 (804) 355-8295 PHONE
 (804)355-8297 FAX

Chain of Custody
 Form# C-01211
 Rev. 1.0
 Effective Feb 14, 2018

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Colpeper Environmental Services	PROJECT NAME/Well# #: LYDOLP Compliance Wells
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Colpeper)
ADDRESS: 1604 Owenby Lane, Richmond, VA 23220	INVOICE ADDRESS: 111 West State Street, Suite 101, Colonial VA, 23201	PROJECT NUMBER: Job No. 2180019-00-01
PHONE #: (804) 355-8295	INVOICE PHONE #: (848) 727-2808	P.O. #:
FAX #: (804) 355-4382	EMAIL: jwhite@joyceeng.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Jordan* SAMPLER SIGNATURE: *M. Jordan* Turn Around Time: 10 Day(s)

Matrix Codes: WWR-Waste Water/Storm Water GW-Ground Water DW-Drinking Water Ind-Industrial CW-Congress Ave/ WP-WP CC-Clean

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Disinfectant Resistant)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		COMMENTS
											VIEWER 101 11B	101 11B WOC	
1) Equipment Blank	<input checked="" type="checkbox"/>												Preservative Codes: 1=HCl/2=Ascorbic Acid/3=Butane/4=Inducton/5=Hydroxide/6=Acetic Acid/7=Dry Ice/8=No Preservative
2) Field Blank	<input checked="" type="checkbox"/>												
3) Trip Blank													
4)													
5)													
6)													
7)													
8)													
9)													

10/10/2018 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	QC Data Package: <input type="checkbox"/>	LAB USE ONLY	COOLER TEMP: <u>10.0</u> °C	
	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	QC Data Package: <input type="checkbox"/>	LAB USE ONLY	COOLER TEMP: <u>10.0</u> °C
	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	QC Data Package: <input type="checkbox"/>	LAB USE ONLY	COOLER TEMP: <u>10.0</u> °C
	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	RECEIVED: <i>[Signature]</i> DATE: 10/10/2018 TIME: 10:41 AM	QC Data Package: <input type="checkbox"/>	LAB USE ONLY	COOLER TEMP: <u>10.0</u> °C

LaBella Associates, 18D0114
 Laurel Valley Compliance Wells
 Recd: 04/04/2018 Due: 04/18/2018



Sample Preservation Log

Sample Preservation Log
 Form # F1301
 Rev # 2.0
 Effective Date 08/20/08
 Page 1 of 1

Order ID: 1800114

Date Performed: 04/24/10

Analyst Performing Check: SL/S

Page 189 of 190

Sample ID	ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3/NO2		DBP		Pesticide (PBT/PBDE/PCPB)		SVOC (PBT/PBDE/PCPB)		CrVI		Perchlor (DBP / PCB/PCPB)			
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
01	A																	X		X							
01	E	X																									
01	F		X																								
01	G			X																							
02	A																	X		X							
02	E	X																									
02	F		X																								
02	G			X																							

NaOH ID: _____ HNO₃ ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂S₂O₃ ID: _____ ** pH must be adjusted between 9.3 - 9.7*
 HCL ID: _____ Na₂SO₃ ID: _____ Buffer Sol'n ID: _____
 1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Sample Conditions Checklist

Sample Received at	11:07PM
Was your sample cooled?	Yes
Was cooling from cold? If so, was the cooled item?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (allows freezing to FID or required on ice and recolded later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA824, EPA8260, EPA824, EPA8215 GR0, EPA8021, EPA824, and RSG-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 18050114-01 Client Sample ID: MA-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW610C	174		2.0	10.0	1	ug/L
Cobalt	01	SW610C	13.1		2.0	4.0	1	ug/L
Mercury	01	SW610C	6.3	J	2.0	10.0	1	ug/L
Thallium	01	SW610A	1.10	J	1.00	2.00	1	ug/L
1,1-Dichloroethene	01	SW620B	8.62		0.40	1.00	1	ug/L
1,2-Dichloroethene	01	SW620B	0.29	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW620B	4.05		0.40	1.00	1	ug/L
Benzene	01	SW620B	1.87		0.40	1.00	1	ug/L
Chlorobenzene	01	SW620B	2.69		0.40	1.00	1	ug/L
Chloroethane	01	SW620B	2.22		0.40	1.00	1	ug/L
Chloroform	01	SW620B	0.58	J	0.50	1.00	1	ug/L
cis-1,2-Dichloroethene	01	SW620B	4.75		0.40	1.00	1	ug/L
trans-1,2-Dichloroethene	01	SW620B	0.40	J	0.40	1.00	1	ug/L
Tetrachloroethene	01	SW620B	1.33		0.30	1.00	1	ug/L
Vinyl chloride	01	SW620B	2.98		0.30	0.50	1	ug/L
Styrene	01	SW620B	1.07	J	1.10	11.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 18D0116-02 Client Sample ID: MW-2B

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	265		2.0	10.0	1	ug/L
Cobalt	02	SW6010C	40.1		2.0	4.0	1	ug/L
Nickel	02	SW6010C	62.1		2.0	10.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	4.19		0.40	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	1.28		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	14.8		0.40	1.00	1	ug/L
Benzene	02	SW8260B	1.67		0.30	1.00	1	ug/L
Chlorobenzene	02	SW8260B	12.8		0.40	1.00	1	ug/L
Chloroethane	02	SW8260B	0.77	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	4.64		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260B	1.56		0.30	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.72		0.30	0.50	1	ug/L
Diethyl phthalate	02	SW8270D	2.35	J	1.00	10.0	1	ug/L

Laboratory Sample ID: 18D0116-03 Client Sample ID: MW-3A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010C	214		2.0	10.0	1	ug/L
Cobalt	03	SW6010C	89.6		2.0	4.0	1	ug/L
Nickel	03	SW6010C	8.4	J	2.0	10.0	1	ug/L
Zinc	03	SW6010C	10.1		10.0	10.0	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	0.96	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	0.87	J	0.40	1.00	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 1809118-04 Client Sample ID: MW-4

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Barium	04	SW6010C	164		2.0	10.0	1	ug/L
Chromium	04	SW6010C	20.8		4.0	10.0	1	ug/L
Cadmium	04	SW6010C	24.4		2.0	4.0	1	ug/L
Copper	04	SW6010C	28.1		3.0	10.0	1	ug/L
Nickel	04	SW6010C	24.8		2.0	10.0	1	ug/L
Vanadium	04	SW6010C	59.1		2.0	10.0	1	ug/L
Zinc	04	SW6010C	53.5		10.0	30.0	1	ug/L
1,1-Dichloroethane	01	SW8260B	2.85		0.50	1.00	1	ug/L
1,3-Dichlorobenzene	04	SW8260B	0.52	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8260B	11.1		0.40	1.00	1	ug/L
Benzene	04	SW8260B	1.47		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	8.78		0.40	1.00	1	ug/L
Chloroethane	04	SW8260B	1.18		0.40	1.00	1	ug/L
o-1,2-Dichloroethane	01	SW8260B	4.14		0.70	1.00	1	ug/L
m,p-Xylenes	04	SW8260B	0.87	J	0.50	2.00	1	ug/L
o-Xylene	04	SW8260B	1.85		0.20	1.00	1	ug/L
Toluene	04	SW8260B	0.58	J	0.20	1.00	1	ug/L
Triethylamine	04	SW8260B	0.70		0.20	0.50	1	ug/L
Xylenes, Total	04	SW8260B	2.72	J	1.00	3.00	1	ug/L

Laboratory Sample ID: 1809118-05 Client Sample ID: MW-26

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Barium	05	SW6010C	14.2		2.0	10.0	1	ug/L
Chromium	05	SW6010C	5.0	J	4.0	10.0	1	ug/L
Nickel	05	SW6010C	4.8	J	2.0	10.0	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID 1809116

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 4, 2018 16:16
Date Issued: April 18, 2018 16:05
Project Number: 2180019.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/04/2018 16:16. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Scyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfate that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-18	1806718-01	Ground Water	04/03/2018 08:35	04/04/2018 16:16
SW-28	1806718-02	Ground Water	04/03/2018 08:05	04/04/2018 16:16
SW-3A	1806718-03	Ground Water	04/03/2018 07:50	04/04/2018 16:16
SW-4	1806718-04	Ground Water	04/03/2018 09:55	04/04/2018 16:16
SW-20	1806718-05	Ground Water	04/04/2018 09:25	04/04/2018 16:16

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	10.0	1	ug/L	JW
Arsenic	01	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	104		2.0	10.0	1	ug/L	JW
Beryllium	01	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	4.0	1	ug/L	JW
Cadmium	01	7440-43-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	4.0	1	ug/L	JW
Cobalt	01	7440-48-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	15.1		2.0	4.0	1	ug/L	JW
Chromium	01	7440-47-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		4.0	10.0	1	ug/L	JW
Copper	01	7440-50-8	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	10.0	1	ug/L	JW
Mercury	01	7440-01-6	8000/7000	04/10/2018 08:28	04/10/2018 15:27	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000/7000	04/09/2018 12:30	04/09/2018 17:10	6.3	J	2.0	10.0	1	ug/L	JW
Lead	01	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	10.0	1	ug/L	JW
Antimony	01	7440-20-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		40.0	50.0	1	ug/L	JW
Tin	01	7440-31-0	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		20.0	20.0	1	ug/L	JW
Thallium	01	7440-28-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	1.10	J	1.00	2.00	1	ug/L	BCV
Zinc	01	7440-65-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	10.0	1	ug/L	JW
000	01	7440-65-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		10.0	10.0	1	ug/L	JW
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	811-32-4	8110/2000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.10	0.40	1	ug/L	JW
1,1,1-Trifluoroethane	01	71-26-5	8110/2000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.10	1.00	1	ug/L	JW
1,1,2,2-Tetrafluoroethane	01	78-34-5	8110/2000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.40	0.40	1	ug/L	JW
1,1,2-Trifluoroethane	01	78-39-5	8110/2000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.50	1.00	1	ug/L	JW
1,1-Dichloroethane	01	78-34-3	8110/2000	04/09/2018 17:53	04/09/2018 17:53	0.62		0.40	1.00	1	ug/L	JW
1,1-Dichloroethylene	01	78-36-4	8110/2000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.30	1.00	1	ug/L	JW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **180918-01**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1-Dichloroethane	01	585-89-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,2,2-Trichloroethane	01	96-18-4	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	01	100-43-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	01	95-50-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	0.28	J	0.20	1.00	1	ug/L	JCW
1,3-Dichloroethane	01	107-66-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	01	78-67-3	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	01	94-73-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichloropropane	01	142-28-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dioxane	01	108-48-7	SW820008	04/05/2018 17:52	04/05/2018 17:53	4.81		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	01	594-29-7	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	2.00	1	ug/L	JCW
2-Butanone (MEK)	01	78-93-3	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
3-Methyl-2-butanone (MIBK)	01	821-79-5	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	01	109-10-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
Axetone	01	67-64-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		7.00	10.0	1	ug/L	JCW
Acetone	01	75-07-6	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.50	10.0	1	ug/L	JCW
Axeton	01	107-03-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.50	10.0	1	ug/L	JCW
Acrylonitrile	01	107-13-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.70	8.00	1	ug/L	JCW
Adiponitrile	01	107-09-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	1.00	1	ug/L	JCW
Benzene	01	71-43-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	1.87		0.20	1.00	1	ug/L	JCW
Bromochloromethane	01	74-97-6	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	01	75-27-4	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	0.50	1	ug/L	JCW
Bromoflourine	01	75-25-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.00	1	ug/L	JCW
Bromomethane	01	74-83-9	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Carbon disulfide	01	75-16-5	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.00	10.0	1	ug/L	JCW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	01	108-90-7	SW826008	04/05/2018 17:52	04/05/2018 17:53	2.88		0.40	1.00	1	ug/L	JCW
Chloroethane	01	75-00-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	2.22		0.40	1.00	1	ug/L	JCW
Chloroform	01	67-68-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	0.50	1	ug/L	JCW
Chloromethane	01	74-87-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	3.88		0.50	1.00	1	ug/L	JCW
Chloroprene	01	105-65-8	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	5.00	1	ug/L	JCW
cis-1,2-Dichloroethylene	01	100-00-2	SW826008	04/05/2018 17:52	04/05/2018 17:53	6.79		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	01	6001-01-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Dibromochloromethane	01	13466-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	21.00		0.50	0.50	1	ug/L	JCW
Dibromomethane	01	74-95-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	01	75-71-8	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.00	1.00	1	ug/L	JCW
Ethyl methyl ether	01	61-61-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	0.00	1	ug/L	JCW
Ethylbenzene	01	100-41-4	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Fluorochlorobutane	01	67-66-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	0.50	1	ug/L	JCW
Isoprene	01	74-88-4	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	01	78-83-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		18.0	80.0	1	ug/L	JCW
propylene	01	17501-25-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	2.00	1	ug/L	JCW
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.50	1	ug/L	JCW
Methyl methacrylate	01	95-42-6	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	2.00	1	ug/L	JCW
Methylene chloride	01	75-09-2	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		2.00	4.00	1	ug/L	JCW
n-Heptane	01	95-47-8	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.00	1	ug/L	JCW
Propionitrile	01	107-12-0	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		7.30	40.0	1	ug/L	JCW
Styrene	01	100-42-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-18

Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	106-60-0	8260.000	04/05/2018 17:52	04/05/2018 17:53	0.40	J	0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10091-02-8	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	156-21-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		1.50	4.00	1	ug/L	JDW
Trichloroethylene	01	78074-6	8260.000	04/05/2018 17:52	04/05/2018 17:53	1.33		0.30	1.00	1	ug/L	JDW
Trorochloroethylene	01	79-00-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	108-28-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	78071-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	2.90		0.30	0.50	1	ug/L	JDW
Aromatics, Total	01	1500-50-7	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethane-01 (Sum)	01	62.5 %	75-120	04/05/2018 17:53	04/05/2018 17:53							
Sum: 4-Bromochlorobenzene (Sum)	01	60.0 %	75-130	04/05/2018 17:53	04/05/2018 17:53							
Sum: 4-Bromodichlorobenzene (Sum)	01	64.4 %	80-119	04/05/2018 17:53	04/05/2018 17:53							
Sum: Toluene-01 (Sum)	01	65.9 %	85-129	04/05/2018 17:53	04/05/2018 17:53							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **180618-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
1,2,5-Trichlorobenzene	01	99-35-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	5.49	1	ug/L	SKS
1,3-Dichlorobenzene	01	99-65-9	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
1,4-Naphthoquinone	01	130-19-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
1-Naphthylamine	01	124-32-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,3,4,5-Tetrachlorophenol	01	94-90-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	01	90-90-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
3,4-Dimethoxyphenol	01	120-83-2	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-8	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dinitrophenol	01	81-26-6	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		0.58	04.9	1	ug/L	SKS
2,5-Dinitrophenol	01	121-14-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,6-Dinitrophenol	01	87-62-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,6-Dinitrotoluene	01	806-30-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Acetylnaphthalene	01	5346-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Chlorophenol	01	90-07-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Methylnaphthalene	01	91-07-6	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
2-Naphthylamine	01	91-58-6	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
2-Nitroaniline	01	88-78-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
2-Nitrophenol	01	88-75-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
3,3'-Dinitrobenzidine	01	81-84-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		4.40	11.0	1	ug/L	SKS
3,3'-Dimethylbenzidine	01	118-93-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
3-Methyltoluene	01	95-49-5	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **180618-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	01	94-09-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
1,4-Dioxo-2-methylphenol	01	934-02-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	54.9	1	ug/L	SKS
4-Aminodiphenyl	01	92-87-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
4-Bromodiphenyl ether	01	101-85-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
4-Chlorodiphenyl ether	01	108-47-9	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
4-Dimethyldiphenyl ether	01	3006-13-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
4-Fluorodiphenyl ether	01	100-01-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
4-Nitrodiphenyl ether	01	100-02-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	54.9	1	ug/L	SKS
5-Nitro-1-naphthol	01	89-85-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
7,12-Dioxabenzofuran (a) anthracene	01	87-87-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Acenaphthene	01	85-13-5	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Acenaphthylene	01	108-90-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Acenaphthone	01	98-89-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
Anthracene	01	130-13-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (a) anthracene	01	54-54-3	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-6	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		0.05	0.11	1	ug/L	SKS
Benzo (a) fluoranthene	01	200-99-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (a,h) perylene	01	181-24-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (ghi) perylene	01	100-81-4	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	22.0	1	ug/L	SKS
ben (2-Chloromethyl) methane	01	111-81-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
ben (2-Chloromethyl) ether	01	111-44-4	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	01	108-80-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
ben (2-Ethylhexyl) phosphate	01	117-81-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	2.75	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **180918-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	01	65-66-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Chlorobenzene	01	912-15-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.75	2.75	1	ug/L	SKJ
Chrysene	01	218-01-8	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dibenz	01	2003-38-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Dibenz (p,h) anthracene	01	62-70-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dibenzofuran	01	131-64-8	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	6.68	1	ug/L	SKJ
Dibutyl phthalate	01	84-66-2	8190.710	04/09/2018 09:10	04/09/2018 14:38	1.50	J	1.50	11.0	1	ug/L	SKJ
Dimethylacetate	01	62-81-5	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Dimethyl phthalate	01	131-71-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dioctyl phthalate	01	84-74-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Di-n-octyl phthalate	01	107-64-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Diphenylamine	01	122-38-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Drochlor	01	298-04-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.75	2.75	1	ug/L	SKJ
Ethyl methacrylate	01	63-05-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	23.0	1	ug/L	SKJ
Ethyl acetate	01	54-64-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Fluorol	01	52-65-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Fluoranthene	01	208-44-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Fluorene	01	66-73-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachlorobenzene	01	118-74-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		0.05	0.05	1	ug/L	SKJ
Hexachlorobutadiene	01	67-68-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachlorocyclopentadiene	01	77-47-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachloroethane	01	67-73-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachloropropene	01	1888-71-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
Indene (1,2,3-cd) pyrene	01	185-36-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ

Certificate of Analysis

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 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Acetone	01	66-07-8	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Acrylonitrile	01	78-06-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Benzonitrile	01	120-66-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Biphenyl	01	143-00-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.20	2.75	1	ug/L	SKJ
o-Cresol	01	6999-04-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methylcyclohexane	01	81-80-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methyl methanesulfonate	01	66-27-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methyl parathion	01	298-00-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
Naphthalene	01	91-20-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Nonane	01	68-98-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
n-Propylcyclohexane	01	65-18-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
n-Propylcyclopentane	01	62-75-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propyl-n-butylamine	01	924-10-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propyl-n-propylamine	01	621-64-7	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propylcyclohexylamine	01	84-26-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
n-Propylcyclohexylmethanamine	01	10305-95-8	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
n-Propylamine	01	100-75-4	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propylmethanamine	01	630-00-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	01	126-68-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-97-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
o-Cresol	01	1210-77-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
o-Cresol	01	95-48-7	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
o-Toluidine	01	95-53-4	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ

Certificate of Analysis

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] acetophenone	01	66-11-7	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	2.75	1	ug/L	SKS
p-Chloro-m-cresol	01	69-66-7	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Pentachlorobenzene	01	608-03-5	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Pentachloronitrobenzene (quintone)	01	82-09-8	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	1.50	1	ug/L	SKS
Phenanthrene	01	92-44-2	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenanthrene	01	85-01-8	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenol	01	106-96-2	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenol	01	206-02-2	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKS
p-Phenylenediamine	01	106-90-2	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00	C	2.20	11.0	1	ug/L	SKS
Phenoxide	01	20602-2	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Pyrene	01	179-09-6	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00	C	1.50	11.0	1	ug/L	SKS
Selinol	01	14-55-7	8262.700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKS
Surr: 2,4,6-Trinitrophenol (Surr)	01	88-4	20-88	04/06/2018 09:10	04/09/2018 14:38							8
Surr: 2,4-Dinitrophenol (Surr)	01	88-3	27-87	04/06/2018 09:10	04/09/2018 14:38							
Surr: 2-Nitrophenol (Surr)	01	78-4	10-57	04/06/2018 09:10	04/09/2018 14:38							
Surr: Nitrobenzene-d5 (Surr)	01	78-7	10-66.8	04/06/2018 09:10	04/09/2018 14:38							
Surr: Phenol-d5 (Surr)	01	92-4	5-33	04/06/2018 09:10	04/09/2018 14:38							
Surr: p-Terphenyl-d14 (Surr)	01	65.7	27-133	04/06/2018 09:10	04/09/2018 14:38							

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Client Sample ID: MW-18

Laboratory Sample ID: 180618-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	01	12874-11-2	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.028	0.217	1	ug/L	MSM
PCB as Aroclor 1221	01	11704-25-2	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.217	0.217	1	ug/L	MSM
PCB as Aroclor 1232	01	11747-15-5	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.018	0.217	1	ug/L	MSM
PCB as Aroclor 1240	01	83489-21-8	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.048	0.217	1	ug/L	MSM
PCB as Aroclor 1248	01	72972-29-6	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.092	0.217	1	ug/L	MSM
PCB as Aroclor 1254	01	11047-69-7	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.038	0.217	1	ug/L	MSM
PCB as Aroclor 1260	01	11098-82-0	EPA8210A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.037	0.217	1	ug/L	MSM
Sum PCB	01	88.0 %	30-105	04/06/2018 13:29	04/09/2018 12:59							
Sum PCMX	01	88.0 %	30-105	04/06/2018 13:29	04/09/2018 12:59							
4,4'-DDE	01	72-54-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDD	01	72-85-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDT	01	50-29-3	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
Aldrin	01	509-00-2	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
alpha-BHC	01	512-64-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC	01	212-85-7	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
Chlordane	01	87-19-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.217	0.217	1	ug/L	MSM
dieldrin	01	512-65-9	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Dieldrin	01	60-27-1	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan I	01	505-66-4	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan II	01	33213-65-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan sulfate	01	1051-87-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Deslin	01	73-20-8	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Deslin isothyle	01	7427-82-4	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	01	58-88-9	EPA8210B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-18

Laboratory Sample ID: 180918-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW82618	04092018 13:29	04092018 12:59	BLDD		0.009	0.054	1	ug/L	MSM
Heptachlor epoxide	01	1024-57-8	SW82618	04092018 13:29	04092018 12:59	BLDD		0.007	0.054	1	ug/L	MSM
Methoxychlor	01	72-43-5	SW82618	04092018 13:29	04092018 12:59	BLDD		0.054	0.054	1	ug/L	MSM
Toxaphene	01	8001-35-2	SW82618	04092018 13:29	04092018 12:59	BLDD		0.217	1.09	1	ug/L	MSM
Sum: PCMX	01	99.0 %	18-112	04092018 13:29	04092018 12:59							
Sum: DCB	01	99.0 %	27-131	04092018 13:29	04092018 12:59							

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Client Sample ID: MW-18

Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-79-5	826151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	01	95-79-1	826151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	01	94-75-7	826151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Simazine	01	88-89-7	826151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	01	67-89-0	826151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	01	130 %	80-112	0409/2018 13:31	04/17/2018 13:37							S

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-18

Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (DOB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichlorobenzene	01	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chlorobenzene (DBCP)	01	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM

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Client Sample ID: MW-18

Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	01	5496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1809118-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	02	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.0	5.0	1	ug/L	BCV
Barium	02	7440-39-3	8000/7000	04/09/2018 12:30	04/09/2018 17:22	288		2.0	10.0	1	ug/L	JPV
Beryllium	02	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	4.0	1	ug/L	JPV
Cadmium	02	7440-43-4	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	4.0	1	ug/L	JPV
Cobalt	02	7440-48-4	8000/7000	04/09/2018 12:30	04/09/2018 17:22	40.1		2.0	4.0	1	ug/L	JPV
Chromium	02	7440-47-3	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		4.0	10.0	1	ug/L	JPV
Copper	02	7440-50-8	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	10.0	1	ug/L	JPV
Mercury	02	7440-97-4	8000/7000	04/10/2018 08:28	04/10/2018 15:55	BL00		0.20	0.20	1	ug/L	MM
Nickel	02	7440-52-4	8000/7000	04/09/2018 12:30	04/09/2018 17:22	82.1		2.0	10.0	1	ug/L	JPV
Lead	02	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		5.0	10.0	1	ug/L	JPV
Antimony	02	7440-35-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.00	5.00	1	ug/L	BCV
Selenium	02	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-6	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		50.0	20.0	1	ug/L	JPV
Thallium	02	7440-28-6	8000/7000A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.00	5.00	1	ug/L	BCV
Zinc	02	7440-66-2	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	10.0	1	ug/L	JPV
Zen	02	7440-66-6	8000/7000	04/09/2018 12:30	04/09/2018 17:22	BL00		10.0	10.0	1	ug/L	JPV

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	82	630-20-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethene	82	71-68-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	82	79-34-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	82	79-00-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	82	78-24-2	SW82008	04/05/2018 18:18	04/05/2018 18:18	4.18		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	82	75-35-4	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloropropene	82	503-08-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropane	82	88-18-4	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	82	120-82-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	82	95-50-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	1.28		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	82	107-06-2	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW
1,2-Dichloropropane	82	78-87-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	82	94-73-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	82	142-28-6	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	82	106-46-7	SW82008	04/05/2018 18:18	04/05/2018 18:18	14.5		0.40	1.00	1	ug/L	JCW
2,2-Dimethylpropane	82	504-20-7	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	2.00	1	ug/L	JCW
Toluene (MIBK)	82	78-90-2	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
2-Hexanone (MIBK)	82	581-78-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	82	106-10-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
Acetone	82	67-64-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	82	75-05-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	10.0	1	ug/L	JCW
Acetan	82	107-02-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	10.0	1	ug/L	JCW
Acrylonitrile	82	107-13-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		1.70	0.20	1	ug/L	JCW
Adiponitrile	82	107-08-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW

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 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	82	71-43-2	SW82600	04/05/2018 18:19	04/05/2018 18:19	1.87		0.20	1.00	1	ug/L	JDW
Bromochloromethane	82	74-97-8	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	82	75-27-4	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	0.50	1	ug/L	JDW
Bromoform	82	75-25-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Bromomethane	82	74-83-9	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Carbon disulfide	82	75-13-6	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	82	56-23-5	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	02	108-90-7	SW82600	04/05/2018 18:19	04/05/2018 18:19	12.6		0.40	1.00	1	ug/L	JDW
Chloroethane	02	78-10-9	SW82600	04/05/2018 18:19	04/05/2018 18:19	0.77	J	0.40	1.00	1	ug/L	JDW
Chloroform	02	67-69-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	02	74-87-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	02	129-99-8	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethane	82	106-69-2	SW82600	04/05/2018 18:19	04/05/2018 18:19	4.84		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	82	10661-21-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	04	129-88-1	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	02	74-96-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Dichlorodifluoromethane	82	75-71-9	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxyacetate	82	97-83-2	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.50	5.00	1	ug/L	JDW
Ethylacetate	82	100-61-4	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Hexachlorocyclopentadiene	82	67-89-3	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.80	0.80	1	ug/L	JDW
Isomethane	82	74-88-4	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.20	10.0	1	ug/L	JDW
Isobutyl Alcohol	02	78-83-1	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		10.0	80.0	1	ug/L	JDW
m,p-Xylene	82	17861-23-	SW82600	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	2.00	1	ug/L	JDW

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **180618-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	96-63-8	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	2.00	1	ug/L	JCW
Methylvinyl ketone	02	75-26-2	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	02	95-47-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
Propylene	02	107-12-0	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		7.00	40.0	1	ug/L	JCW
Styrene	02	100-42-0	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	02	127-18-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
Ethene	02	100-48-2	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethene	02	100-50-5	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloropropene	02	10061-02-8	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	02	105-07-6	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethylene	02	79-01-6	SW82000	04/05/2018 18:18	04/05/2018 18:18	1.88		0.50	1.00	1	ug/L	JCW
Trichlorofluoromethane	02	79-08-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	02	106-05-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		2.00	10.0	1	ug/L	JCW
Vinyl chloride	02	75-11-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	0.77		0.50	0.50	1	ug/L	JCW
Xylenes, Total	02	1200-25-7	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		1.00	3.00	1	ug/L	JCW
Sum: 1,2-Dichloroethane (Sum)	02	95.3 %	79-129	04/05/2018 18:18	04/05/2018 18:18							
Sum: 4-Bromofluoromethane (Sum)	02	91.9 %	75-120	04/05/2018 18:18	04/05/2018 18:18							
Sum: Dibromofluoromethane (Sum)	02	92.8 %	85-118	04/05/2018 18:18	04/05/2018 18:18							
Sum: Trifluoroethane (Sum)	02	93.3 %	85-100	04/05/2018 18:18	04/05/2018 18:18							

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Client Sample ID: **MW-28**

Laboratory Sample ID: **180918-82**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GC/MS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
1,2,5-Trichlorobenzene	02	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	9.43	1	ug/L	SKS
1,3-Dichlorobenzene	02	95-95-9	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.73	2.72	1	ug/L	SKS
1,4-Naphthoquinone	02	135-19-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.11	10.9	1	ug/L	SKS
1-Naphthylene	02	124-92-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
1,2,4,5-Tetrahalobenzene	02	94-90-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	02	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	02	95-95-2	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
1,4-Dimethoxybenzene	01	120-83-2	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2,4-Dimethylphenol	02	105-67-8	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.84	0.84	1	ug/L	SKS
2,4-Dinitrophenol	02	81-59-6	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.54	04.3	1	ug/L	SKS
2,4-Dinitrotoluene	02	121-14-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2,6-Dinitrophenol	02	87-62-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	02	806-30-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2-Acetylnaphthalene	02	75-66-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		3.71	3.72	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2-Chlorophenol	02	95-57-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
2-Methylnaphthalene	02	91-07-6	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
2-Naphthylene	02	91-59-8	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	02	88-78-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	02	88-75-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
3,3'-Dinitroazobenzidine	02	81-94-1	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		4.38	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	02	119-83-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	02	54-45-5	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	02	99-06-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
1,3-Dioxo-2-methylbenzol	02	934-02-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	54.3	1	ug/L	SKS
4-Aminobenzophenone	02	93-87-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
4-Bromobenzophenone	02	101-85-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
4-Chlorobenzophenone	02	100-47-9	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
4-Dimethylaminobenzophenone	02	7006-17-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
4-Fluorobenzophenone	02	100-01-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
4-Nitrobenzophenone	02	100-02-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	54.3	1	ug/L	SKS
5-Nitrobenzophenone	02	99-05-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenzo (a) anthracene	02	81-87-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
Acenaphthene	02	81-32-5	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Acenaphthylene	02	105-90-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Acenaphthone	02	95-85-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
Anthracene	02	130-13-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	02	56-56-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-6	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		0.05	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	02	205-99-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (ghi) perylene	02	181-24-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (a) pyrene	02	100-01-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	21.7	1	ug/L	SKS
ben (2-Chloromethyl) methane	02	111-81-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
ben (2-Chloromethyl) ether	02	111-44-4	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	02	106-80-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
ben (2-Ethylhexyl) phosphate	02	917-81-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.09	2.72	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-82**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Chlorobenzene	02	911-15-8	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00	C	2.72	2.72	1	ug/L	SKJ
Chrysene	02	218-01-8	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dibenz	02	2002-38-4	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Diene (p,q) anthracene	02	92-70-2	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dibenzofuran	02	133-84-8	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	6.43	1	ug/L	SKJ
Diethyl phthalate	02	84-66-2	SW82700	04/09/2018 09:10	04/09/2018 15:14	2.38	J	1.89	10.9	1	ug/L	SKJ
Dimethyl	02	80-81-8	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Dimethyl phthalate	02	133-11-3	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dioctyl phthalate	02	84-74-2	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	10.9	1	ug/L	SKJ
Di-n-octyl phthalate	02	117-84-0	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Diphenylene	02	122-38-4	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	10.9	1	ug/L	SKJ
Drochlor	02	298-04-4	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00	C	2.72	2.72	1	ug/L	SKJ
Ethyl methacrylate	02	81-81-0	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	21.7	1	ug/L	SKJ
Ethyl acetate	02	78-14-3	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Fluorol	02	52-65-7	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Fluoranthene	02	218-44-0	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Fluorene	02	86-72-7	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachlorobenzene	02	118-74-1	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		0.05	0.05	1	ug/L	SKJ
Hexachlorobiphenyl	02	87-68-3	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachlorocyclopentadiene	02	77-47-4	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachloroethane	02	87-72-1	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachloropropene	02	1588-71-7	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	2.72	1	ug/L	SKJ
Indene (1,2,3-nd) pyrene	02	185-38-1	SW82700	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Acetone	02	66-09-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Acetophenone	02	78-06-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Acrylonitrile	02	126-98-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
Alkane	02	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00	C	2.17	2.72	1	ug/L	SKB
any-Cresol	02	9599-04-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Methacrylonitrile	02	91-08-9	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Methyl methanesulfonate	02	66-27-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Methyl parathion	02	298-00-0	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKB
Naphthalene	02	81-20-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
Nitrobenzene	02	98-96-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	95-18-5	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.72	2.72	1	ug/L	SKB
n-Propylnitrobenzene	02	95-75-6	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	924-18-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	921-64-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	84-36-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	10005-95-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKB
n-Propylnitrobenzene	02	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
n-Propylnitrobenzene	02	930-05-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKB
n,n-Dimethyl phosphorothioate	02	126-98-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
n,n-Dimethyl n-2-propenyl phosphorothioate	02	297-87-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKB
any-Cresol	02	1215-77-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		3.25	10.0	1	ug/L	SKB
n-Cresol	02	95-48-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.88	10.0	1	ug/L	SKB
n-Toluene	02	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKB

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	02	89-11-7	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	2.72	1	ug/L	SKJ
p-Chloro-m-xcel	02	64-56-7	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	02	604-85-5	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	10.0	1	ug/L	SKJ
Pentachloronitrobenzene (quintone)	02	82-69-8	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	02	92-44-2	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	02	89-01-9	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	02	106-95-2	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	02	206-02-2	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	2.72	1	ug/L	SKJ
p-Fluorophenanthrene	02	100-50-2	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00	C	2.57	10.0	1	ug/L	SKJ
Fluorene	02	206-02-2	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	10.0	1	ug/L	SKJ
Pyrene	02	179-09-0	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00	C	1.00	10.0	1	ug/L	SKJ
Sulfone	02	74-55-7	8192710	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	2.72	1	ug/L	SKJ
Surr: 1,4-Dibromophenyl (Surr)	02	82.9 %	20-88	04/06/2018 09:10	04/09/2018 16:14							
Surr: 2-Fluorobiphenyl (Surr)	02	87.7 %	23-67	04/06/2018 09:10	04/09/2018 16:14							
Surr: 2-Fluorophenyl (Surr)	02	83.4 %	19-32	04/06/2018 09:10	04/09/2018 16:14							
Surr: Nitrobenzene-d5 (Surr)	02	99.5 %	10-66.8	04/06/2018 09:10	04/09/2018 16:14							
Surr: Phenanth (Surr)	02	74.9 %	5-33	04/06/2018 09:10	04/09/2018 16:14							
Surr: p-Terphenyl-d14 (Surr)	02	61.7 %	27-133	04/06/2018 09:10	04/09/2018 16:14							

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1806118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	82	12874-11-2	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.209	0.200	1	ug/L	HLM
PCB as Aroclor 1221	82	11104-26-2	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.209	0.200	1	ug/L	HLM
PCB as Aroclor 1232	82	11147-14-5	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.018	0.200	1	ug/L	HLM
PCB as Aroclor 1240	82	83485-21-8	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.048	0.200	1	ug/L	HLM
PCB as Aroclor 1248	82	72672-29-6	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.090	0.200	1	ug/L	HLM
PCB as Aroclor 1254	82	11397-89-7	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.038	0.200	1	ug/L	HLM
PCB as Aroclor 1260	82	11006-82-0	EPA8080A	04/06/2018 13:29	04/06/2018 14:24	BL00		0.037	0.200	1	ug/L	HLM
Sum PCB	82	492 %	30-105	04/06/2018 13:29	04/06/2018 14:24							
Sum PCBs	82	50.0 %	30-105	04/06/2018 13:29	04/06/2018 14:24							
4,4'-DDE	82	72-64-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
4,4'-DDD	82	72-88-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
4,4'-DDT	82	50-29-3	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Aldrin	82	509-00-2	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
alpha-BHC	82	519-34-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
gamma-BHC	82	212-88-7	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Chlordane	82	87-14-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.200	0.200	1	ug/L	HLM
dieldrin	82	519-85-9	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Dieldrin	82	60-27-1	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Endosulfan I	82	509-88-4	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Endosulfan II	82	33213-85-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Endosulfan sulfate	82	1051-87-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Endrin	82	73-20-8	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Endrin aldehyde	82	7427-82-4	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
gamma-BHC (Lindane)	82	58-88-9	EPA8081B	04/06/2018 13:29	04/06/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1806118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Dieldrin	02	75-44-8	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BLDD		0.009	0.035	1	ug/L	MSM
Heptachlor epoxide	02	1024-57-5	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BLDD		0.002	0.005	1	ug/L	MSM
Methoxychlor	02	73-43-5	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BLDD		0.054	0.022	1	ug/L	MSM
Toxaphene	02	8001-35-2	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BLDD		0.230	1.10	1	ug/L	MSM
Sum: PCMX	02	99.0 %	19-112	04/09/2018 13:29	04/09/2018 14:24							
Sum: DGB	02	50.0 %	27-131	04/09/2018 13:29	04/09/2018 14:24							

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Client Sample ID: MW-28

Laboratory Sample ID: 1809118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	02	95-79-5	806151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-79-1	806151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	02	94-75-7	806151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Simazine	02	88-85-7	806151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	02	87-86-0	806151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	02	90.0 %	80-112	0409/2018 13:21	04/17/2018 14:20							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1804118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobiphenyls by GC/MS												
1,2-Dibromobiphenyl (DBB)	82	106-93-4	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichlorobiphenyl	82	96-18-4	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chlorobiphenyl (DBCP)	82	96-12-8	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-29

Laboratory Sample ID: 1804118-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	61-12-6	SW9012B	04/11/2018 12:57	04/11/2018 12:57	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	02	15498-24-8	SW9015	04/09/2018 11:02	04/09/2018 11:05	BL00		0.80	1.00	1	mg/L	DLF

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	02	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.0	5.0	1	ug/L	BCV
Barium	03	7440-39-3	8000/7000	04/09/2018 12:30	04/09/2018 17:24	214		3.0	10.0	1	ug/L	JPV
Beryllium	05	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	4.0	1	ug/L	JPV
Cadmium	06	7440-49-4	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	08	7440-48-4	7000/5000	04/09/2018 12:30	04/09/2018 17:24	89.8		3.0	4.0	1	ug/L	JPV
Chromium	09	7440-47-3	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		4.0	10.0	1	ug/L	JPV
Copper	07	7440-50-9	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	10.0	1	ug/L	JPV
Mercury	04	7439-97-4	7074/714	04/10/2018 08:28	04/10/2018 15:58	BL00		0.30	0.30	1	ug/L	MM
Nickel	00	7440-33-0	8000/7000	04/09/2018 12:30	04/09/2018 17:24	6.4	J	2.0	10.0	1	ug/L	JPV
Lead	03	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		5.0	10.0	1	ug/L	JPV
Antimony	00	7440-36-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.00	5.00	1	ug/L	BCV
Selenium	00	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-8	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		50.0	20.0	1	ug/L	JPV
Thallium	04	7440-28-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.00	5.00	1	ug/L	BCV
Vanadium	01	7440-62-3	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	10.0	1	ug/L	JPV
Zinc	01	7440-66-6	8000/7000	04/09/2018 12:30	04/09/2018 17:24	50.1		10.0	10.0	1	ug/L	JPV

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethene	02	71-69-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	04	79-00-5	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	05	78-34-3	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	06	75-35-4	SW82608	04/05/2018 18:47	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
1,1-Dichloropropene	07	563-09-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropane	08	96-18-4	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	09	120-82-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	00	95-50-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloroethane	00	107-06-3	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	02	75-27-5	SW82608	04/05/2018 18:48	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,3-Dichloropropane	03	541-73-1	SW82608	04/05/2018 18:48	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	00	142-29-9	SW82608	04/05/2018 18:47	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	00	106-46-7	SW82608	04/05/2018 18:47	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	01	584-05-7	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	2.00	1	ug/L	JCW
2-Hexanone (MIBK)	00	75-91-3	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	0.50	1	ug/L	JCW
2-Heptanone (MIBK)	00	521-78-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	0.50	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	00	108-10-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	0.50	1	ug/L	JCW
Acetone	00	67-64-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	00	75-05-8	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	10.0	1	ug/L	JCW
Acrylonitrile	00	107-03-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.10	10.0	1	ug/L	JCW
Acrylonitrile	00	107-13-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		1.70	0.00	1	ug/L	JCW
Allyl alcohol	00	107-18-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW

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 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	01	71-43-2	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Bromochloromethane	02	74-97-5	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	03	75-27-4	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	0.50	1	ug/L	JCW
Bromofuran	04	75-28-3	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Bromomethane	05	74-99-9	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Carbon disulfide	06	75-18-0	SW82000	04/05/2018 18:47	04/05/2018 18:48	FL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	07	95-23-5	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	08	108-90-7	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chloroethane	09	78-09-3	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	10	67-68-3	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.60	0.80	1	ug/L	JCW
Chloromethane	11	74-87-5	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Chloroacene	12	126-95-6	SW82000	04/05/2018 18:48	04/05/2018 18:48	BL00		0.80	5.00	1	ug/L	JCW
cis-1,2-Dichloroethylene	13	156-59-2	SW82000	04/05/2018 18:48	04/05/2018 18:48	0.91	J	0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	14	10061-01-0	SW82000	04/05/2018 18:47	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Dibromochloromethane	15	13448-1	SW82000	04/05/2018 18:47	04/05/2018 18:48	FL00		0.30	0.50	1	ug/L	JCW
Dibromomethane	16	74-95-3	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	17	75-71-8	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		1.80	1.00	1	ug/L	JCW
Ethyl methacrylate	18	97-63-2	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	3.00	1	ug/L	JCW
Ethylbenzene	19	100-41-4	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Hexachlorocyclopentadiene	20	67-66-3	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.80	0.80	1	ug/L	JCW
Iodomethane	21	74-88-4	SW82000	04/05/2018 18:47	04/05/2018 18:48	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	22	78-25-1	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		18.0	40.0	1	ug/L	JCW
m,p-Xylenes	23	17962-12-1	SW82000	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	2.00	1	ug/L	JCW

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	96-63-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.80	2.00	1	ug/L	JCW
Methylene chloride	03	75-29-2	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	05	95-47-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
Propylene	07	107-12-0	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		7.00	40.0	1	ug/L	JCW
Styrene	08	100-42-0	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Tetrafluoroethylene (TFE)	09	127-18-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Toluene	02	108-88-3	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethylene	03	106-66-5	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloropropane	04	10661-02-8	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.80	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	05	110-67-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethylene	02	75-29-5	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Trinitrofluorethane	03	75-29-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	03	106-68-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		2.20	10.0	1	ug/L	JCW
Vinyl chloride	03	75-35-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	0.50	1	ug/L	JCW
Xylenes, Total	03	1330-20-7	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		1.00	3.00	1	ug/L	JCW
Sum: 1,2-Dichloroethane-d4 (Sum)	03	91.0 %	75-129	04/05/2018 18:45	04/05/2018 18:48							
Sum: 4-Bromobromobenzene (Sum)	03	94.2 %	75-129	04/05/2018 18:45	04/05/2018 18:48							
Sum: Dibromobromobenzene (Sum)	03	91.7 %	85-119	04/05/2018 18:45	04/05/2018 18:48							
Sum: Toluene-d8 (Sum)	03	98.3 %	85-130	04/05/2018 18:45	04/05/2018 18:48							

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-40**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	02	95-95-4	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	8.38	1	ug/L	SKS
1,3-Dichlorobenzene	03	95-95-9	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
1,4-Naphthoquinone	04	135-15-4	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
1-Naphthylamine	05	134-32-7	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.98	10.8	1	ug/L	SKS
1,2,4,5-Tetrahydroxybenzene	06	88-90-3	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	07	95-95-4	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	08	95-95-2	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
1,4-Dimethoxybenzene	09	120-83-2	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4-Dimethylphenol	10	105-67-8	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		0.84	0.84	1	ug/L	SKS
2,4-Dinitrophenol	11	81-59-5	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		0.74	07.6	1	ug/L	SKS
2,4-Dinitrophenol	12	121-14-0	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	13	97-95-9	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	14	606-20-2	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Acetylnaphthalene	15	13466-3	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
2-Chloronaphthalene	16	91-58-7	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Chlorophenol	17	95-57-0	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Methylnaphthalene	18	91-07-6	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
2-Naphthylamine	19	91-59-6	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
2-Nitroaniline	20	88-78-4	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	21.5	1	ug/L	SKS
2-Nitrophenol	21	88-75-5	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
3,3'-Dinitrobenzidine	22	81-94-1	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		4.50	10.8	1	ug/L	SKS
3,3'-Dimethylbenzidine	23	108-85-7	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
3-Methyltoluene	24	95-49-5	SM82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	01	99-05-2	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	21.5	1	ug/L	SKS
1,3-Dinitro-2-methylbenzene	02	934-02-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	53.8	1	ug/L	SKS
1-Aminobenzene	03	93-87-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	10.8	1	ug/L	SKS
1-Bromophenyl phenyl ether	05	101-85-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
1-Chlorobenzene	07	104-67-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	10.8	1	ug/L	SKS
1-Chlorophenyl phenyl ether	01	1006-17-2	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
1-Fluorobenzene	02	100-01-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	21.5	1	ug/L	SKS
1-Naphthol	03	100-02-7	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	53.8	1	ug/L	SKS
1-Nitro-2-naphthol	09	89-85-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	10.8	1	ug/L	SKS
1,12-Dinitrobenz (a) anthracene	00	81-87-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	10.8	1	ug/L	SKS
Acenaphthene	05	81-32-5	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Acenaphthylene	02	105-90-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Acenaphthone	09	85-85-2	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		2.15	21.5	1	ug/L	SKS
Anthracene	03	130-13-7	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Benzo (a) anthracene	03	194-91-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		0.65	0.65	1	ug/L	SKS
Benzo (a) pyrene	03	50-32-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		0.65	0.11	1	ug/L	SKS
Benzo (a) fluoranthene	03	120-96-2	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Benzo (a,h) perylene	03	181-24-2	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Benzo (k) fluoranthene	03	207-08-9	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
Benzo (ghi) pentalene	03	100-81-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	21.5	1	ug/L	SKS
ben (2-Chloromethyl) naphthalene	03	111-91-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
ben (2-Chloromethyl) ether	03	111-44-8	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	03	108-80-1	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	10.8	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	03	117-81-7	SW82700	04/09/2018 08:10	04/09/2018 16:48	BLOD		1.88	2.88	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenic/Alkyl Organic Compounds by GCMS												
Bnly benzyl phthalate	01	65-66-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	01	910-10-6	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	01	218-01-8	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenz	01	200-38-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Diene (p,y) anthracene	01	62-70-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	01	131-44-8	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	6.00	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dimethyl	01	65-81-5	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	01	121-11-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Di-n-butyl phthalate	01	88-14-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	01	121-35-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKS
Dibutyl	01	206-34-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methylacrylate	01	61-00-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	21.0	1	ug/L	SKS
Ethyl acetate	01	76-14-5	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Fluorifer	01	51-80-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Fluorenone	01	200-44-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	01	86-73-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	01	87-68-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclohexadiene	01	71-47-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachloroethane	01	67-73-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	01	1655-71-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Indene (1,2,3-cd) system	01	183-38-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	01	60-32-8	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	01	78-58-1	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	01	126-98-1	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
Allyl Cyanide	01	143-00-0	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.50	2.00	1	ug/L	SKJ
Propylene Oxide	01	9499-04-0	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methyl Acrylate	01	91-08-0	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methyl Methacrylate	01	96-32-3	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methyl Methacrylamide	01	296-00-0	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
Nitrobenzene	01	91-20-3	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Nitrobenzamide	01	98-98-3	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodiphenylamine	01	91-18-8	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosodimethylamine	01	62-75-6	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodiethylamine	01	924-18-3	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	01	921-64-7	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	01	94-26-6	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodihydroxylamine	01	10905-95-8	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
n-Nitrosopiperidine	01	100-75-4	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosopyrrolidine	01	930-05-2	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
n,n-Dimethyl phosphorothioate	01	126-68-1	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-87-2	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
Propylene Oxide	01	1310-77-2	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
n-Cresol	01	95-48-7	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
p-Toluene	01	95-53-4	8190.710	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **180918-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	69-11-7	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcel	02	69-50-7	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	03	608-03-1	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
Pentachlorodibenzene (quintolene)	05	82-09-8	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	04	92-44-2	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	07	89-01-8	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	08	106-06-1	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	02	206-02-1	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	09	108-90-1	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00	C	2.00	10.0	1	ug/L	SKJ
Fluorene	00	8960-54-8	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
Pyrene	00	129-00-0	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00	C	1.00	10.0	1	ug/L	SKJ
Selvol	02	94-55-7	8192700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	00	77-47-3	20-88	04/06/2018 09:10	04/09/2018 16:48							
Surr: 2-Fluorobiphenyl (Surr)	00	67-61-4	23-87	04/06/2018 09:10	04/09/2018 16:48							
Surr: 2-Fluorophenol (Surr)	01	94-11-7	10-32	04/06/2018 09:10	04/09/2018 16:48							
Surr: Nitrobenzene-d5 (Surr)	01	55-21-5	10-66.8	04/06/2018 09:10	04/09/2018 16:48							
Surr: Fluorene-d10 (Surr)	02	89-01-8	5-33	04/06/2018 09:10	04/09/2018 16:48							
Surr: p-Terphenyl-d14 (Surr)	03	63-01-1	27-133	04/06/2018 09:10	04/09/2018 16:48							

Certificate of Analysis

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Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	01	12874-11-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.026	0.216	1	ug/L	MSM
PCB as Aroclor 1221	02	11104-26-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.216	0.216	1	ug/L	MSM
PCB as Aroclor 1232	03	11141-16-5	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.216	0.216	1	ug/L	MSM
PCB as Aroclor 1240	04	83405-21-8	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.044	0.216	1	ug/L	MSM
PCB as Aroclor 1248	05	72672-29-6	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.092	0.216	1	ug/L	MSM
PCB as Aroclor 1254	06	11047-66-1	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.038	0.216	1	ug/L	MSM
PCB as Aroclor 1260	07	11096-82-0	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.037	0.216	1	ug/L	MSM
Sum PCB	08	50.0 %	30-105	04/06/2018 13:29	04/09/2018 14:41							
Sum PCMX	09	50.0 %	30-105	04/06/2018 13:29	04/09/2018 14:41							
4,4'-DDE	01	72-54-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
4,4'-DDD	02	72-65-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
4,4'-DDT	03	50-29-3	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
Aldrin	04	509-00-2	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
alpha-BHC	05	512-64-2	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
gamma-BHC	06	212-69-7	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.005	0.054	1	ug/L	MSM
Chlordane	07	87-19-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.216	0.216	1	ug/L	MSM
dieldrin	08	512-65-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Dieldrin	09	60-27-1	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Endosulfan I	01	505-66-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Endosulfan II	02	30213-67-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Endosulfan sulfate	03	1021-57-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Deslin	04	73-20-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
Deslin isothyle	05	7421-82-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	06	58-88-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BLDG		0.002	0.054	1	ug/L	MSM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1806118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	8060B18	04/09/2018 13:29	04/09/2018 14:41	BL00		0.008	0.054	1	ug/L	MSM
Heptachlor epoxide	02	1024-87-8	8060B18	04/09/2018 13:29	04/09/2018 14:41	BL00		0.007	0.054	1	ug/L	MSM
Methoxychlor	03	72-43-5	8060B18	04/09/2018 13:29	04/09/2018 14:41	BL00		0.004	0.054	1	ug/L	MSM
Toxaphene	05	8001-35-2	8060B18	04/09/2018 13:29	04/09/2018 14:41	BL00		0.210	1.08	1	ug/L	MSM
Sum: PCMX	07	90.0 %	18-112	04/09/2018 13:29	04/09/2018 14:41							
Sum: DGB	08	90.0 %	27-131	04/09/2018 13:29	04/09/2018 14:41							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-1A

Laboratory Sample ID: 1809118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-79-5	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-79-1	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
2,4-D	03	94-75-7	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Simazine	05	88-89-7	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	07	87-86-0	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	03	100 %	80-112	04/09/2018 13:31	04/17/2018 14:48							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1806118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM

Certificate of Analysis

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Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	02	15498-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	04	7440-22-4	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Antimony	04	7440-36-2	800020A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.0	5.0	1	ug/L	BCV
Barium	04	7440-39-3	800010C	04/09/2018 12:30	04/09/2018 17:28	184		3.0	10.0	1	ug/L	JPV
Beryllium	04	7440-41-7	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	4.0	1	ug/L	JPV
Cadmium	04	7440-43-4	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	04	7440-48-4	800010C	04/09/2018 12:30	04/09/2018 17:28	14.4		3.0	4.0	1	ug/L	JPV
Chromium	04	7440-47-2	800010C	04/09/2018 12:30	04/09/2018 17:28	22.9		4.0	10.0	1	ug/L	JPV
Copper	04	7440-50-9	800010C	04/09/2018 12:30	04/09/2018 17:28	28.1		3.0	10.0	1	ug/L	JPV
Mercury	04	7439-97-6	800070A	04/10/2018 06:29	04/10/2018 15:48	BL00		0.30	0.30	1	ug/L	MW
Nickel	04	7440-02-0	800010C	04/09/2018 12:30	04/09/2018 17:28	24.8		3.0	10.0	1	ug/L	JPV
Lead	04	7439-92-1	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		6.0	10.0	1	ug/L	JPV
Arsenic	04	7440-38-1	800030A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.00	5.00	1	ug/L	BCV
Selenium	04	7782-49-2	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		40.0	60.0	1	ug/L	JPV
Ti	04	7440-31-5	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		20.0	20.0	1	ug/L	JPV
Thallium	04	7049-29-0	800030A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.00	2.00	1	ug/L	BCV
Vanadium	04	7440-62-2	800010C	04/09/2018 12:30	04/09/2018 17:28	18.1		3.0	10.0	1	ug/L	JPV
Zinc	04	7440-66-3	800010C	04/09/2018 12:30	04/09/2018 17:28	53.5		10.0	10.0	1	ug/L	JPV

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	04	830-20-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trifluoroethane	04	71-68-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrafluoroethane	04	79-34-5	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trifluoroethane	04	79-00-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	04	79-34-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	1.80		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	04	75-35-4	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropane	04	503-06-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	04	88-19-4	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	04	120-82-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	04	95-50-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	0.52	J	0.30	1.00	1	ug/L	JDW
1,2-Dichloroethane	04	107-06-2	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.90	1.00	1	ug/L	JDW
1,2-Dichloropropane	04	79-87-5	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	04	941-73-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	140-28-6	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/05/2018 19:11	04/05/2018 19:11	17.1		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	04	504-20-7	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	2.00	1	ug/L	JDW
1,1,1-Trichloroethane (MIBK)	04	79-34-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
2-Hexanone (MIBK)	04	501-75-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	04	106-10-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	04	67-64-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	04	75-05-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.50	10.0	1	ug/L	JDW
Acrolein	04	107-02-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	04	107-13-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.70	5.00	1	ug/L	JDW
Adiponitrile	04	107-06-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.80	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	04	71-43-2	SW826008	04/05/2018 19:11	04/05/2018 19:11	2.47		0.30	1.00	1	ug/L	JDW
Bromochloromethane	04	74-97-6	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	04	75-27-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	0.90	1	ug/L	JDW
Bromoform	04	75-25-2	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	04	74-83-9	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	04	75-13-6	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	04	56-23-5	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	04	108-90-7	SW826008	04/05/2018 19:11	04/05/2018 19:11	8.76		0.40	1.00	1	ug/L	JDW
Chloroethane	04	78-00-1	SW826008	04/05/2018 19:11	04/05/2018 19:11	1.18		0.40	1.00	1	ug/L	JDW
Chloroform	04	67-68-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	04	74-87-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	04	129-99-8	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethane	04	106-69-2	SW826008	04/05/2018 19:11	04/05/2018 19:11	4.14		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	04	10567-91-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	04	124-68-1	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	04	74-96-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Dibromotrifluoroethane	04	75-71-9	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxybenzene	04	97-83-2	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	0.50	1	ug/L	JDW
Ethylbenzene	04	100-41-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Heaachlorobenzene	04	67-66-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.40	1	ug/L	JDW
Hexamethane	04	74-89-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	04	78-83-1	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		10.0	40.0	1	ug/L	JDW
m-xylene	04	17801-23-9	SW826008	04/05/2018 19:11	04/05/2018 19:11	0.87	J	0.30	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	04	126-99-7	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	04	99-93-8	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	04	75-09-2	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		2.00	4.00	1	ug/L	JDW
n-Butane	04	95-47-8	SW826000	04/05/2018 19:11	04/05/2018 19:11	1.88		0.50	1.00	1	ug/L	JDW
Propene	04	107-13-6	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	20.0	1	ug/L	JDW
Biphenyl	04	105-67-1	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	04	127-18-4	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	04	108-88-3	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Cis-1,4-Dichlorobenzene	04	108-90-9	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	04	1006-107-8	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	04	110-67-8	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.10	4.00	1	ug/L	JDW
Trihalomethylene	04	79-07-8	SW826000	04/05/2018 19:11	04/05/2018 19:11	0.59	J	0.20	1.00	1	ug/L	JDW
Trichloroethylene	04	79-09-4	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	04	109-05-4	SW826000	04/05/2018 19:11	04/05/2018 19:11	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	04	75-01-4	SW826000	04/05/2018 19:11	04/05/2018 19:11	0.70		0.30	0.50	1	ug/L	JDW
Xylenes, Total	04	1330-20-7	SW826000	04/05/2018 19:11	04/05/2018 19:11	2.72	J	1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichlorobenzene (Sum)	04	95.3 %	79-120	04/05/2018 19:11	04/05/2018 19:11							
Sum: 4-Dichlorobenzene (Sum)	04	96.7 %	79-130	04/05/2018 19:11	04/05/2018 19:11							
Sum: Dichloromethane (Sum)	04	94.5 %	85-118	04/05/2018 19:11	04/05/2018 19:11							
Sum: Toluene (Sum)	04	99.4 %	85-130	04/05/2018 19:11	04/05/2018 19:11							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenethetic Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
1,2,5-Trichlorobenzene	04	95-95-4	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	5.56	1	ug/L	SKS
1,3-Dichlorobenzene	04	95-95-5	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	04	130-19-4	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	04	124-92-7	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,3,4,5-Tetrahydrofuran	04	94-90-3	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4,5-Trichlorophenol	04	95-95-4	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	04	95-95-2	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	04	123-63-2	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	04	105-67-8	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dinitrophenol	04	81-26-5	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dinitrophenol	04	121-14-2	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,6-Dinitrophenol	04	87-62-0	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,6-Dinitrophenol	04	606-20-3	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Acetylnaphthalene	04	13466-3	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	04	91-58-7	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	04	95-57-0	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	04	91-07-6	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	04	91-58-6	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	04	88-78-4	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	04	88-75-5	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
3,3'-Dinitroazobenzidine	04	81-94-1	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylazobenzidine	04	109-83-7	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	04	54-43-5	8190.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	04	94-09-2	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	04	934-02-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	99.8	1	ug/L	SKS
4-Acetylphenyl	04	90-07-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	04	101-85-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
4-Chlorophenyl	04	104-07-9	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	04	1006-11-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
4-Fluorophenyl	04	100-01-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
4-Nitrophenyl	04	100-02-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	99.8	1	ug/L	SKS
3-Nitro-1-propanol	04	89-88-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	04	81-81-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
Acenaphthene	04	81-32-5	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acenaphthylene	04	100-96-0	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acenaphthene	04	98-88-2	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
Anthracene	04	120-12-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	04	94-09-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	04	50-32-6	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	04	200-99-2	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	04	181-24-2	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	04	207-08-9	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (a) pyrene	04	100-81-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	22.2	1	ug/L	SKS
1a (2-Chloroethyl) naphthalene	04	111-81-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
1a (2-Chloroethyl) ether	04	111-44-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,2'-Oxide (1-chloromethyl)	04	106-80-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
1a (2-Ethylhexyl) phthalate	04	117-81-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	2.78	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	04	85-68-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Chlorobenzene	04	910-15-6	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00	C	2.78	2.78	1	ug/L	SKS
Chrysene	04	218-01-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dibenz	04	2003-38-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Diethyl (p,p') dithiocarbamate	04	62-70-3	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dibenzofuran	04	133-84-8	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.23	8.98	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dinitrobenzene	04	65-61-5	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Di-nonyl phthalate	04	129-71-3	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Di-n-octyl phthalate	04	88-74-3	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.23	11.1	1	ug/L	SKS
Di-n-octyl phthalate	04	117-84-0	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Difluorobenzene	04	127-55-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.23	11.1	1	ug/L	SKS
Dieldrin	04	208-94-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00	C	2.78	2.78	1	ug/L	SKS
Diethyl malonate	04	62-55-0	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	22.3	1	ug/L	SKS
Diethyl sebacate	04	56-56-3	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Dibutyl	04	53-85-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Fluorenone	04	206-44-0	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Fluorene	04	86-73-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	04	118-74-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		0.08	0.08	1	ug/L	SKS
Hexachlorobutadiene	04	87-68-3	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	04	77-47-4	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachloroethane	04	67-73-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachloropropene	04	1888-71-7	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.23	2.78	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	04	180-38-1	SW82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS

Certificate of Analysis

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806114-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Acetone	04	69-09-8	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Acrylonitrile	04	78-06-1	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Benzonitrile	04	120-82-1	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
Biphenyl	04	143-00-0	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00	C	2.20	2.78	1	ug/L	SKB
o-Cresol	04	95-99-9	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Methoxybenzene	04	91-09-9	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Methyl methanesulfonate	04	99-97-3	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Methyl parathion	04	298-00-0	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	2.78	1	ug/L	SKB
Naphthalene	04	81-20-3	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
Nitrobenzene	04	98-08-3	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
n-Propylacetamide	04	95-18-8	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKB
n-Propylmethanamine	04	50-75-6	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
n-Propyl-n-butylamine	04	929-18-3	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
n-Propylpropylamine	04	921-64-7	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
n-Propylsulfonamide	04	84-36-8	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
n-Propylsulfonamide	04	10995-95-8	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	2.78	1	ug/L	SKB
n-Propylamine	04	100-75-4	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
n-Propylamine	04	930-05-2	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	2.78	1	ug/L	SKB
n,n-Dimethyl phosphorothioate	04	126-69-1	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
n,n-Dimethyl n-2-propenyl phosphorothioate	04	297-87-3	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
o-Cresol	04	1215-77-2	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKB
o-Cresol	04	95-48-7	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.91	11.1	1	ug/L	SKB
o-Toluene	04	95-53-4	SW82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.20	2.78	1	ug/L	SKB

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Client Sample ID: **MW-4**

Laboratory Sample ID: **180618-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	04	89-11-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	2.78	1	ug/L	SKJ
p-Chloro-m-xcel	04	89-96-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Pentachlorobenzene	04	608-03-1	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKJ
Pentachloronitrobenzene (quintozene)	04	82-09-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	1.11	1	ug/L	SKJ
Phenanthrene	04	92-44-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Fluorene	04	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Phthal	04	106-05-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Phthal	04	206-02-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKJ
p-Fluorophenanthrene	04	108-80-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00	C	2.22	11.1	1	ug/L	SKJ
Fluorene	04	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKJ
Pyrene	04	179-09-0	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00	C	1.11	11.1	1	ug/L	SKJ
Selene	04	84-06-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKJ
Sum: 1,4,6-Trinitrophenol (Surr)	04	82.1 %	20-88	04/06/2018 06:10	04/09/2018 17:18							
Sum: 2-Fluorobiphenyl (Surr)	04	79.2 %	23-87	04/06/2018 06:10	04/09/2018 17:18							
Sum: 2-Fluorophenol (Surr)	04	41.8 %	10-32	04/06/2018 06:10	04/09/2018 17:18							
Sum: Nitrobenzene-d5 (Surr)	04	73.8 %	10-88.8	04/06/2018 06:10	04/09/2018 17:18							
Sum: Fluorene-d10 (Surr)	04	30.8 %	5-33	04/06/2018 06:10	04/09/2018 17:18							
Surr: p-Terphenyl-d14 (Surr)	04	63.2 %	27-133	04/06/2018 06:10	04/09/2018 17:18							

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Client Sample ID: MW-4

Laboratory Sample ID: 1809118-84

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	04	12874-11-2	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.026	0.233	1	ug/L	MSM
PCB as Aroclor 1221	04	11904-26-2	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.026	0.233	1	ug/L	MSM
PCB as Aroclor 1232	04	11947-16-5	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.017	0.233	1	ug/L	MSM
PCB as Aroclor 1240	04	83885-21-8	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.048	0.233	1	ug/L	MSM
PCB as Aroclor 1248	04	72072-29-6	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.060	0.233	1	ug/L	MSM
PCB as Aroclor 1254	04	11997-69-7	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.038	0.233	1	ug/L	MSM
PCB as Aroclor 1260	04	11006-82-0	EPA8080A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.038	0.233	1	ug/L	MSM
Sum PCB	04	50.0 %	35-605	04/10/2018 09:17	04/10/2018 19:23							
Sum PCDF	04	45.0 %	35-605	04/10/2018 09:17	04/10/2018 19:23							
4-F-OH	04	72-64-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
4-F-COCl	04	72-68-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
4-F-DOP	04	90-29-3	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Aldrin	04	509-00-7	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
alpha-BHC	04	519-84-0	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
gamma-BHC	04	212-88-7	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Chlordane	04	97-19-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
dieldrin	04	519-85-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
DDE	04	60-57-1	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Endosulfan I	04	505-68-4	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Endosulfan II	04	33213-85-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Endosulfan sulfate	04	1031-87-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Endrin	04	73-20-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
Endrin aldehyde	04	7427-85-4	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM
gamma-BHC (Lindane)	04	58-88-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	MSM

Certificate of Analysis

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 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	04	76-44-8	SW8261B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.009	0.004	1	ug/L	MSM
Heptachlor epoxide	04	1024-87-8	SW8261B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.007	0.003	1	ug/L	MSM
Methoxychlor	04	72-43-5	SW8261B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.004	0.002	1	ug/L	MSM
Toxaphene	04	8001-35-2	SW8261B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.202	0.11	1	ug/L	MSM
Sum: PCMX	04	19.0 %	19-112	04/10/2018 09:17	04/10/2018 19:23							
Sum: DCB	04	40.0 %	27-131	04/10/2018 09:17	04/10/2018 19:23							

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Client Sample ID: **MW-4**

Laboratory Sample ID: **1809118-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	95-76-5	SW8151A	04092018 13:31	04/17/2018 15:08	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	04	95-75-1	SW8151A	04092018 13:31	04/17/2018 15:08	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	04	94-75-7	SW8151A	04092018 13:31	04/17/2018 15:08	BL00		0.100	0.500	1	ug/L	SKB
Simazine	04	88-85-7	SW8151A	04092018 13:31	04/17/2018 15:08	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	04	87-86-0	SW8151A	04092018 13:31	04/17/2018 15:08	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	04	90.0 %	80-112	0409/2018 13:31	04/17/2018 15:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromethane (EDB)	04	106-93-4	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	04	96-18-4	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BBP
Sulfide	04	15498-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	05	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	05	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:40	BL00		1.0	5.0	1	ug/L	BCV
Barium	05	7440-39-3	8000/7000	04/09/2018 12:30	04/09/2018 17:28	14.2		3.0	10.0	1	ug/L	JPV
Beryllium	05	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	4.0	1	ug/L	JPV
Cadmium	05	7440-43-4	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	05	7440-48-4	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	4.0	1	ug/L	JPV
Chromium	05	7440-47-3	8000/7000	04/09/2018 12:30	04/09/2018 17:28	5.8	J	4.0	10.0	1	ug/L	JPV
Copper	05	7440-50-8	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	10.0	1	ug/L	JPV
Mercury	05	7440-97-4	8000/7000A	04/10/2018 08:28	04/10/2018 15:49	BL00		0.30	0.30	1	ug/L	MM
Manganese	05	7440-50-0	8000/7000	04/09/2018 12:30	04/09/2018 17:28	4.8	J	2.0	10.0	1	ug/L	JPV
Lead	05	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Antimony	05	7440-36-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:40	BL00		1.00	1.00	1	ug/L	BCV
Tellurium	05	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		40.0	50.0	1	ug/L	JPV
Tin	05	7440-31-0	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		50.0	20.0	1	ug/L	JPV
Thallium	05	7440-29-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:40	BL00		1.00	1.00	1	ug/L	BCV
Zinc	05	7440-66-2	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	10.0	1	ug/L	JPV
Pb	05	7440-66-0	8000/7000	04/09/2018 12:30	04/09/2018 17:28	BL00		10.0	10.0	1	ug/L	JPV

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	05	71-68-8	SW826000	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	05	79-34-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	05	79-00-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	79-34-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	05	79-39-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropane	05	563-09-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	05	96-18-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	05	129-82-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	05	96-90-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloroethane	05	107-06-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	05	75-27-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	541-73-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	142-29-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	05	106-46-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	05	694-70-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MIBK)	05	79-59-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	05	99-10-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	05	67-64-1	SW826000	04/05/2018 19:37	04/05/2018 19:37	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	05	79-26-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	10.0	1	ug/L	JDW
Acrylonitrile	05	107-02-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	10.0	1	ug/L	JDW
Acrylonitrile	05	107-13-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	05	107-25-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Benzene	05	71-43-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	05	74-97-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	05	75-27-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.50	1	ug/L	JDW
Bromoflourine	05	75-28-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	05	74-99-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	05	75-19-0	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	05	56-23-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroacetylene	05	100-00-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	05	78-09-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	05	67-68-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	0.50	1	ug/L	JDW
Chloroethelene	05	74-87-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	05	105-65-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	05	156-38-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	05	10001-01-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	05	13448-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	05	74-96-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Dibromofluoromethane	05	75-71-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxyline	05	97-63-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.00	1	ug/L	JDW
Ethylbenzene	05	100-41-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Heptachlorobenzene	05	97-68-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.80	0.80	1	ug/L	JDW
Iodomethane	05	74-88-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	05	78-83-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		18.0	60.0	1	ug/L	JDW
m,p-Xylene	05	179601-23	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	2.00	1	ug/L	JDW

Certificate of Analysis

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	05	126-98-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	05	95-63-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	05	75-09-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	05	95-47-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Propene	05	107-12-0	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		7.00	40.0	1	ug/L	JDW
Styrene	05	100-42-0	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Tetrahydrofuran (THF)	05	127-18-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	05	108-88-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethene	05	106-66-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloropropane	05	10661-02-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	05	110-97-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethene	05	75-01-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	05	75-09-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	05	109-05-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	05	7541-64	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	05	1330-20-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-d4 (Sum)	05	93.0 %	75-120	04/05/2018 19:37	04/05/2018 19:37							
Sum: 4-Bromobromobenzene (Sum)	05	92.8 %	75-120	04/05/2018 19:37	04/05/2018 19:37							
Sum: Dibromobromobenzene (Sum)	05	92.7 %	80-119	04/05/2018 19:37	04/05/2018 19:37							
Sum: Toluene-d8 (Sum)	05	97.0 %	85-130	04/05/2018 19:37	04/05/2018 19:37							

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	08	69-64-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	08	69-56-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	9.38	1	ug/L	SKS
1,3-Dichlorobenzene	08	69-69-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
1,4-Naphthoquinone	08	130-19-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
1-Naphthylene	08	124-32-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,3,4,5-Tetrachlorophenol	05	64-90-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	05	60-59-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	05	68-56-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
3,4-Dichlorophenol	05	120-83-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,4-Dimethylphenol	05	105-67-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.94	0.94	1	ug/L	SKS
2,4-Dinitrophenol	05	81-76-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.54	03.6	1	ug/L	SKS
2,5-Dinitrophenol	05	121-14-0	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,6-Dinitrophenol	05	67-65-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	05	604-30-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2-Acetylnaphthalene	05	75-66-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
2-Chloronaphthalene	05	61-58-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2-Chlorophenol	05	95-57-0	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
2-Methylnaphthalene	05	61-67-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.9	1	ug/L	SKS
2-Naphthylene	05	61-69-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.9	1	ug/L	SKS
2-Nitrobenzene	05	69-76-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
2-Nitrophenol	05	69-75-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS
3,3'-Dinitrobenzidine	05	61-64-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		4.30	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	05	106-93-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
3-Methyltoluene	05	64-65-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.09	10.9	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1-Nitrobenzene	05	99-06-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
1,4-Dioxo-2-methylphenol	05	934-02-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	53.8	1	ug/L	SKS
4-Aminodiphenyl	05	92-87-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
4-Bromophenyl phenyl ether	05	101-85-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
4-Chloroaniline	05	106-47-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	05	100671-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
4-Fluorobenzene	05	100-01-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
4-Nitrophenol	05	100-02-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	53.8	1	ug/L	SKS
5-Nitro-1-naphthol	05	89-85-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	05	87-87-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
Acenaphthene	05	81-15-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Acenaphthylene	05	105-90-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Acenaphthone	05	95-85-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
Anthracene	05	130-13-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (a) anthracene	05	94-04-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.85	0.85	1	ug/L	SKS
Benzo (a) pyrene	05	50-32-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.85	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	05	105-99-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (ghi) perylene	05	181-24-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (k) fluoranthene	05	207-08-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (a) pyrene	05	100-81-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	21.5	1	ug/L	SKS
1a (2-Chloromethyl) naphthalene	05	111-91-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
1a (2-Chloromethyl) ether	05	111-44-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
1,2'-Oxide (1-chloronaphthalene)	05	106-80-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
1a (2-Ethylmethyl) phthalate	05	117-81-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	2.88	1	ug/L	SKS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1806118-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GCMS												
Butyl benzyl phthalate	05	65-65-7	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	05	911-95-8	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	05	218-01-8	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenz	05	200-35-4	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Diene (p,p') anthracene	05	62-70-3	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	05	133-44-8	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dinitrobenzene	05	65-85-5	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Di-nonyl phthalate	05	125-19-3	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Di-n-octyl phthalate	05	84-74-2	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Di-n-octyl phthalate	05	117-84-0	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenzyltoluene	05	127-35-4	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Dieldrin	05	208-94-4	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methacrylate	05	62-50-0	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	11.0	1	ug/L	SKS
Ethyl acetate	05	76-14-5	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Fluoranthene	05	52-69-7	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Fluorene	05	206-44-0	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	05	84-73-7	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	05	118-74-1	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	05	67-68-3	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclohexadiene	05	77-47-4	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobutadiene	05	67-73-1	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	05	1655-71-7	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	05	183-38-1	SM8270D	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Emp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	05	60-00-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	05	78-06-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	05	126-98-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Allyl Cyanide	05	143-00-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKJ
prop-Cresol	05	6000-04-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methylcyclohexane	05	81-80-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	05	66-27-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	05	298-00-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
Naphthalene	05	81-20-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Nitrobenzene	05	98-96-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	05	55-19-5	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosodimethylamine	05	52-75-5	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Nitrosodi-n-butylamine	05	524-10-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	05	621-64-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	05	84-36-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodimethylamine	05	10005-95-8	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosopiperidine	05	100-70-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Nitrosopyrrolidine	05	620-00-2	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	05	126-68-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	05	297-87-2	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
prop-Cresol	05	1215-77-2	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Cresol	05	95-48-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Toluene	05	95-53-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1809118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	08	89-11-7	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcel	08	69-50-7	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	08	608-03-1	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Pentachloronitrobenzene (quintozene)	08	82-09-8	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	08	92-44-2	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	05	89-01-8	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	08	106-06-2	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluorite	08	256-02-2	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	08	108-90-2	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00	C	2.00	10.0	1	ug/L	SKJ
Fluorene	05	89-01-8	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Pyrene	05	179-09-0	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00	C	1.00	10.0	1	ug/L	SKJ
Sulfite	08	74-50-7	SM82700	04/06/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	08	72-03-0	20-88	04/06/2018 09:10	04/09/2018 17:51							
Surr: 2-Fluorobiphenyl (Surr)	08	78-11-4	27-87	04/06/2018 09:10	04/09/2018 17:51							
Surr: 2-Fluorophenol (Surr)	08	44-05-1	10-17	04/06/2018 09:10	04/09/2018 17:51							
Surr: Nitrobenzene-d5 (Surr)	08	78-08-1	10-66.0	04/06/2018 09:10	04/09/2018 17:51							
Surr: Phenanthrene-d10 (Surr)	08	89-01-8	5-33	04/06/2018 09:10	04/09/2018 17:51							
Surr: p-Terphenyl-d14 (Surr)	05	64-37-5	27-133	04/06/2018 09:10	04/09/2018 17:51							

Certificate of Analysis

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Client Sample ID: MW-26

Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	05	12674-11-2	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.026	0.215	1	ug/L	MSM
PCB as Aroclor 1221	05	11904-26-2	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.215	0.215	1	ug/L	MSM
PCB as Aroclor 1232	05	11945-16-5	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.215	0.215	1	ug/L	MSM
PCB as Aroclor 1240	05	83485-21-9	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.044	0.215	1	ug/L	MSM
PCB as Aroclor 1248	05	72672-29-9	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.092	0.215	1	ug/L	MSM
PCB as Aroclor 1254	05	11091-89-1	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.038	0.215	1	ug/L	MSM
PCB as Aroclor 1260	05	11096-92-0	EPA8082A	04/10/2018 09:15	04/10/2018 19:41	BL00		0.037	0.215	1	ug/L	MSM
Sum PCB	05	75.0 %	35-505	04/10/2018 09:17	04/10/2018 19:41							
Sum PCBs	05	75.0 %	35-505	04/10/2018 09:17	04/10/2018 19:41							
4,4'-DDE	05	72-04-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDD	05	72-88-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDT	05	50-29-3	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Aldrin	05	509-00-2	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC	05	513-34-0	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
hexa-BHC	05	212-85-7	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Chlordane	05	57-19-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.215	0.215	1	ug/L	MSM
dieldrin	05	513-35-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Dieldrin	05	50-57-1	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Endosulfan I	05	505-66-4	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Endosulfan II	05	50213-65-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Endosulfan sulfate	05	1031-57-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Endrin	05	73-20-8	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
Endrin aldehyde	05	7421-82-4	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	05	58-89-9	EPA8081B	04/10/2018 09:15	04/10/2018 19:41	BL00		0.005	0.054	1	ug/L	MSM

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	05	75-44-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.009	0.054	1	ug/L	MSM
Heptachlor epoxide	05	1024-57-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.007	0.054	1	ug/L	MSM
Methoxychlor	05	72-43-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.054	0.054	1	ug/L	MSM
Toxaphene	05	8001-35-2	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.210	1.08	1	ug/L	MSM
Sum: PCMP	05	75.0 %	12-112	04/10/2018 09:17	04/10/2018 15:41							
Sum: DCB	05	75.0 %	27-131	04/10/2018 09:17	04/10/2018 15:41							

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Client Sample ID: MW-26

Laboratory Sample ID: 1809118-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	05	95-79-5	SW8151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	05	95-73-1	SW8151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	05	94-75-7	SW8151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Simazine	05	88-86-7	SW8151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	05	67-89-6	SW8151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	05	80.0 %	80-112	04092018 13:31	04/17/2018 15:24							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 180418-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	05	106-93-4	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM
1,2,3-Trichlorobenzene	05	96-18-4	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chlorobenzene (DBCP)	05	96-12-6	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 180418-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	61-12-6	SW9012B	04/11/2018 13:27	04/11/2018 10:27	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	05	15496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Method (Title) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0194 - EPA200.2/R2.8

Blank (BBD0194-BLK1)

Prepared & Analyzed: 04/09/2018

Barium	BLOD	10.0	ug/L							
Beryllium	BLOD	4.0	ug/L							
Cadmium	BLOD	4.0	ug/L							
Chromium	BLOD	10.0	ug/L							
Cobalt	BLOD	4.0	ug/L							
Copper	BLOD	10.0	ug/L							
Lead	BLOD	10.0	ug/L							
Nickel	BLOD	10.0	ug/L							
Selenium	BLOD	10.0	ug/L							
Silver	BLOD	10.0	ug/L							
Ti	BLOD	20.0	ug/L							
Vanadium	BLOD	10.0	ug/L							
Zinc	BLOD	10.0	ug/L							

LOA (BBD0194-001)

Prepared & Analyzed: 04/09/2018

Barium	504	10.0	ug/L	500	107	60-120
Beryllium	540	4.0	ug/L	500	108	60-120
Cadmium	527	4.0	ug/L	500	105	60-120
Chromium	535	10.0	ug/L	500	107	60-120
Cobalt	542	4.0	ug/L	500	108	60-120
Copper	537	10.0	ug/L	500	106	60-120
Lead	519	10.0	ug/L	500	103	60-120
Nickel	542.4	10.0	ug/L	500	108	60-120
Selenium	525	10.0	ug/L	500	105	60-120
Silver	100	10.0	ug/L	100	100	60-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: 180214H - 17K208-280.2										
LC3 (180214-01)										
Prepared & Analyzed: 04/09/2018										
Ti	98.1	20.0	ug/L	100		98.1	80-120			
Vanadium	101	10.0	ug/L	500		106	80-120			
Zn	102	10.0	ug/L	500		106	80-120			
LC3 Dup (180214-02)										
Prepared & Analyzed: 04/09/2018										
Barium	108	10.0	ug/L	500		108	80-120	0.568	20	
Beryllium	143	4.0	ug/L	500		109	80-120	0.554	20	
Calcium	135	4.0	ug/L	500		106	80-120	0.654	20	
Chromium	108	10.0	ug/L	500		108	80-120	0.627	20	
Cobalt	141	4.0	ug/L	500		106	80-120	0.125	20	
Copper	109	10.0	ug/L	500		106	80-120	0.229	20	
Lead	115	10.0	ug/L	500		103	80-120	0.268	20	
Nickel	140.2	10.0	ug/L	500		108	80-120	0.403	20	
Selenium	129	50.0	ug/L	500		104	80-120	0.677	20	
Silver	107	10.0	ug/L	100		107	80-120	1.25	20	E
Ti	94.3	20.0	ug/L	100		94.3	80-120	3.82	20	
Vanadium	103	10.0	ug/L	500		107	80-120	0.479	20	
Zn	106	10.0	ug/L	500		105	80-120	0.868	20	
Matrix Spike (180214-03)										
Source: 180214-01 Prepared & Analyzed: 04/09/2018										
Barium	104	10.0	ug/L	500	114	104	75-125			
Beryllium	142	4.0	ug/L	500	BLDG	108	75-125			
Calcium	112	4.0	ug/L	500	BLDG	102	75-125			
Chromium	109	10.0	ug/L	500	BLDG	108	75-125			
Cobalt	137	4.0	ug/L	500	111	108	75-125			
Copper	121	10.0	ug/L	500	BLDG	108	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Matrix (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 1800194-M52

<u>Matrix Spike (1800194-M52)</u>		<u>Source: 1800194-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Lead	505	10.0	ug/L	500	BLOD	101	75-125			
Nickel	529.8	10.0	ug/L	500	8.3	108	75-125			
Selenium	515	50.0	ug/L	500	BLOD	100	75-125			
Silver	107	10.0	ug/L	100	BLOD	107	75-125			E
Tin	52.4	20.0	ug/L	100	BLOD	52.4	75-125			M
Vanadium	529	10.0	ug/L	500	BLOD	108	75-125			
Zinc	513	10.0	ug/L	500	BLOD	103	75-125			

<u>Matrix Spike (1800194-M52)</u>		<u>Source: 1800299-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Barium	623	10.0	ug/L	500	84.0	108	75-125			
Beryllium	567	4.0	ug/L	500	BLOD	113	75-125			
Cadmium	536	4.0	ug/L	500	BLOD	107	75-125			
Chromium	660	10.0	ug/L	500	BLOD	112	75-125			
Cobalt	548	4.0	ug/L	500	BLOD	110	75-125			
Copper	580	10.0	ug/L	500	12.2	114	75-125			
Lead	515	10.0	ug/L	500	BLOD	103	75-125			
Nickel	551.7	10.0	ug/L	500	BLOD	110	75-125			
Selenium	526	50.0	ug/L	500	BLOD	105	75-125			
Silver	106	10.0	ug/L	100	BLOD	108	75-125			E
Tin	51.3	20.0	ug/L	100	BLOD	51.3	75-125			M
Vanadium	537	10.0	ug/L	500	BLOD	111	75-125			
Zinc	543	10.0	ug/L	500	BLOD	108	75-125			

<u>Matrix Spike Dup (1800194-M52)</u>		<u>Source: 1800194-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Barium	701	10.0	ug/L	500	118	108	75-125	0.861	20	
Beryllium	548	4.0	ug/L	500	BLOD	110	75-125	1.08	20	

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Matrix (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 180418-14 - EPA200.200.2

Matrix Spike Spig (180418-14-0001)		Source: 180418-01		Prepared & Analyzed: 04/09/2018						
Cadmium	517	4.0	ug/L	500	54.00	100	75-125	0.808	20	
Chromium	533	10.0	ug/L	500	BLOD	107	75-125	1.04	20	
Cobalt	541	4.0	ug/L	500	13.1	108	75-125	0.717	20	
Copper	539	10.0	ug/L	500	BLOD	107	75-125	1.01	20	
Lead	505	10.0	ug/L	500	BLOD	101	75-125	0.311	20	
Nickel	521.7	10.0	ug/L	500	6.3	105	75-125	0.366	20	
Selenium	496	10.0	ug/L	500	BLOD	99.2	75-125	3.77	20	
Silver	109	10.0	ug/L	100	BLOD	108	75-125	0.944	20	E
Tin	55.6	10.0	ug/L	100	BLOD	55.0	75-125	4.85	20	M
Vanadium	513	10.0	ug/L	500	BLOD	107	75-125	0.654	20	
Zinc	517	10.0	ug/L	500	BLOD	103	75-125	0.768	20	

Mat. L Spike Spig (180418-14-0002)		Source: 180418-01		Prepared & Analyzed: 04/09/2018						
Boron	541	10.0	ug/L	500	84.0	111	75-125	2.80	20	
Beryllium	578	4.0	ug/L	500	BLOD	118	75-125	2.00	20	
Barium	548	4.0	ug/L	500	BLOD	109	75-125	1.56	20	
Chromium	573	10.0	ug/L	500	BLOD	115	75-125	2.36	20	
Cobalt	553	4.0	ug/L	500	BLOD	112	75-125	0.87	20	
Copper	596	10.0	ug/L	500	13.2	117	75-125	0.79	20	
Lead	524	10.0	ug/L	500	BLOD	106	75-125	1.73	20	
Nickel	599.2	10.0	ug/L	500	BLOD	112	75-125	1.38	20	
Selenium	516	10.0	ug/L	500	BLOD	103	75-125	2.79	20	
Silver	113	10.0	ug/L	100	BLOD	113	75-125	0.80	20	E
Tin	53.2	10.0	ug/L	100	BLOD	53.2	75-125	3.85	20	M
Vanadium	572	10.0	ug/L	500	BLOD	114	75-125	2.80	20	

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Matrix (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0194 - EPA200.2-200.3										
Matrix Spike Dup (BBD0194-MSD0) Source: 1800209-01 Prepared & Analyzed: 04/09/2018										
Zinc	508	10.0	ug/L	500	BLOD	110	75-125	0.860	20	
Batch BBD0195 - EPA200.2-200.3										
Blank (BBD0195-BL01) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Thallium	BLOD	2.00	ug/L							
LCS (BBD0195-B51) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	50.7	5.00	ug/L	50.0		101	80-120			
Arsenic	49	5.0	ug/L	50.0		97.4	80-120			
Thallium	44.6	2.00	ug/L	50.0		89.3	80-120			
LCS Dup (BBD0195-B5D1) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	50.0	5.00	ug/L	50.0		100	80-120	1.27	20	
Arsenic	48	5.0	ug/L	50.0		97.0	80-120	0.448	20	
Thallium	43.3	2.00	ug/L	50.0		86.6	80-120	3.09	20	
Matrix Spike (BBD0195-M31) Source: 1800116-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	53.9	5.00	ug/L	50.0	BLOD	108	75-125			
Arsenic	51	5.0	ug/L	50.0	BLOD	101	75-125			
Thallium	50.0	2.00	ug/L	50.0	1.80	97.7	75-125			
Matrix Spike (BBD0195-M32) Source: 1800181-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	52.3	5.00	ug/L	50.0	BLOD	106	75-125			
Arsenic	50	5.0	ug/L	50.0	BLOD	100	75-125			
Thallium	29.7	2.00	ug/L	50.0	BLOD	79.5	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BBD0219 - EPA206.8.01.4

Matrix Spike Dup (BBD0191-MSD1) Source: 180419-01 Prepared: 04/09/2018 Analyzed: 04/10/2018										
Antimony	54.7	5.00	ug/L	50.0	BLOD	109	75-125	1.41	20	
Arsenic	50	5.0	ug/L	50.0	BLOD	100	75-125	0.799	20	
Thallium	48.7	2.00	ug/L	50.0	1.01	91.0	75-125	0.46	20	

Matrix Spike Dup (BBD0191-MSD2) Source: 180419-01 Prepared: 04/09/2018 Analyzed: 04/10/2018										
Antimony	50.8	5.00	ug/L	50.0	BLOD	102	75-125	2.69	20	
Arsenic	50	5.0	ug/L	50.0	BLOD	90.3	75-125	0.652	20	
Thallium	39.7	2.00	ug/L	50.0	BLOD	78.5	75-125	0.00770	20	

Batch BBD0222 - 5W7470A

Blank (BBD0222-BLK1) Prepared & Analyzed: 04/10/2018										
Mercury	BLOD	0.20	ug/L							

LCS (BBD0222-B51) Prepared & Analyzed: 04/10/2018										
Mercury	2.28	0.20	ug/L	2.50		91.3	80-120			

LCS Dup (BBD0222-B5D1) Prepared & Analyzed: 04/10/2018										
Mercury	2.27	0.20	ug/L	2.50		90.6	80-120	0.737	20	

Matrix Spike (BBD0222-MS1) Source: 180419-01 Prepared & Analyzed: 04/10/2018										
Mercury	2.40	0.20	ug/L	2.50	BLOD	98.1	80-120			

Matrix Spike (BBD0222-MS2) Source: 180419-01 Prepared & Analyzed: 04/10/2018										
Mercury	1.13	0.20	ug/L	2.50	BLOD	45.2	80-120			NS

Matrix Spike Dup (BBD0222-MSD1) Source: 180419-01 Prepared & Analyzed: 04/10/2018										
Mercury	2.29	0.20	ug/L	2.50	BLOD	91.7	80-120	4.68	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 8800000 - RW1436

Matrix Spike Org (8800000-88000)	Source: 1804118-01	Received & Analyzed: 04/10/2018								
Manganese	1.18	0.20	ug/L	2.50	85.00	47.6	80-120	4.72	20	18

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8900181 - 8900188

Blank (8900181-8900188)	Prepared & Analyzed: 04/09/2018									
1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,1-Trichloroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethylene	BL00	1.00	ug/L							
1,1-Dichloropropane	BL00	1.00	ug/L							
1,2,2-Trichloropropane	BL00	1.00	ug/L							
1,2,4-Trichlorobenzene	BL00	1.00	ug/L							
1,2-Dichlorobenzene	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloropropane	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,3-Dichloropropane	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
2,2-Dichloropropane	BL00	2.00	ug/L							
2-Butanone (MEK)	BL00	5.00	ug/L							
2-Pentanone (MIBK)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acetonitrile	BL00	10.0	ug/L							
Acetone	BL00	10.0	ug/L							
Acrylonitrile	BL00	5.00	ug/L							
Allyl chloride	BL00	1.00	ug/L							
Benzene	BL00	1.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch #200181 - 200208										
Blank (200181-200181)										
Prepared & Analyzed 04/09/2018										
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromofluoromethane	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromomethane	BL00	5.00	ug/L							
o-1,2-Dichloroethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethyl methyl ether	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heptachlorobenzene	BL00	0.50	ug/L							
Isomethane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methyl ether	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
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Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NDEC	NDEC Limit	RPD	RPD Limit	Qual
Batch #000181 - 000008										
Metals (0000181-0001)										
Prepared & Analyzed: 04/05/2018										
n-Heptane	81.00	1.00	ug/L							
Propene	81.00	40.0	ug/L							
Hexane	81.00	1.00	ug/L							
Tetrahydrofuran (THF)	81.00	1.00	ug/L							
Styrene	81.00	1.00	ug/L							
trans-1,2-Dichloroethene	81.00	1.00	ug/L							
trans-1,3-Dichloropropene	81.00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	81.00	4.00	ug/L							
Toluene	81.00	1.00	ug/L							
Trichloroethylene	81.00	1.00	ug/L							
Trichlorofluoromethane	81.00	1.00	ug/L							
Vinyl acetate	81.00	10.0	ug/L							
Vinyl chloride	81.00	0.50	ug/L							
Hydrazine, Total	81.00	3.00	ug/L							
Sum: 1,3-Dichlorobutadiene (Sum)	41.5		ug/L	50.0		87.1	75-120			
Sum: 4-Bromochlorobutadiene (Sum)	41.4		ug/L	50.0		82.8	75-120			
Sum: Dichlorodifluoromethane (Sum)	41.8		ug/L	50.0		81.8	80-110			
Sum: Hexene-01 (Sum)	40.3		ug/L	50.0		86.7	80-120			
LCB (0000181-001)										
Prepared & Analyzed: 04/05/2018										
1,1,1,2-Tetrachloroethane	50.8	0.4	ug/L	50.0		107	80-120			
1,1,1-Trichloroethane	47.5	1	ug/L	50.0		95.0	85-120			
1,1,2,2-Tetrachloroethane	44.7	0.4	ug/L	50.0		89.4	80-120			
1,1,2-Trichloroethane	48.8	1	ug/L	50.0		97.8	75-125			
1,1-Dichloroethane	47.3	1	ug/L	50.0		94.8	75-125			
1,1-Dichloroethylene	44.7	1	ug/L	50.0		89.4	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900208										
LOQ (8900181-890)										
Prepared & Analyzed: 04/09/2018										
1,1-Dichloroethane	45.2	1	ug/L	50.0	50.4	90.4	75-125			
1,2-Dichloroethane	43.2	1	ug/L	50.0	50.4	90.8	75-125			
1,1,1-Trichloroethane	46.7	1	ug/L	50.0	50.5	91.0	80-125			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0	50	100	75-125			
1,3-Dichlorobenzene	45.4	1	ug/L	50.0	50.8	91.6	75-125			
1,2-Dibromoethane	47.5	1	ug/L	50.0	50.1	90.2	75-125			
1,3-Dibromobenzene	51.5	1	ug/L	50.0	50	100	75-125			
1,2-Dibromoethane	46.7	1	ug/L	50.0	50.5	91.0	75-125			
1,4-Dibromobenzene	46.4	1	ug/L	50.0	50.6	91.2	75-125			
1,2-Dibromoethane	49.2	2	ug/L	50.0	50.4	90.8	75-125			
2-Methoxy (MIX)	55.5	5	ug/L	50.0	52.8	105.6	35-150			
3-Methoxy (MIX)	56.7	5	ug/L	50.0	57.5	101.4	35-120			
4-Methyl-2-pentanone (MXP)	56.8	5	ug/L	50.0	59.2	104.2	30-125			
Acetone	55.3	10	ug/L	50.0	58.7	106.1	40-140			
Acrylonitrile	100	5	ug/L	200	64.2	32.1	75-125			L
Benzene	47.1	1	ug/L	50.0	54.2	115.1	30-125			
Bromoethane	51.5	1	ug/L	50.0	50	100	35-125			
Bromochloromethane	51.5	0.5	ug/L	50.0	54	108	75-125			
Bromobenzene	51.1	1	ug/L	50.0	50	100	35-125			
Bromomethane	42.2	1	ug/L	50.0	54.4	128.9	30-140			
Carbon disulfide	45.4	10	ug/L	50.0	50.9	112.1	30-150			
Carbon tetrachloride	52.1	1	ug/L	50.0	54	104	35-140			
Chlorobenzene	46.5	1	ug/L	50.0	57.0	122.6	30-125			
Chloroethane	41.5	1	ug/L	50.0	51.0	123.0	30-125			
Chloroform	43.7	0.5	ug/L	50.0	57.4	131.4	35-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
Batch: 1802181 - 1802188										
LO2 (1802181-181)										
Prepared & Analyzed: 04/09/2018										
Chloroethane	41.4	1	ug/L	50.0		52.8	40-120			
cis-1,2-Dichloroethylene	43.2	1	ug/L	50.0		55.5	75-120			
cis-1,3-Dichloropropene	45.4	1	ug/L	50.0		50.8	75-120			
Dibromochloromethane	61.6	0.5	ug/L	50.0		100	60-120			
Dibromomethane	45.8	1	ug/L	50.0		57.5	75-120			
Dibromofluoromethane	11.3	1	ug/L	50.0		52.7	20-150			
Ethylbenzene	55.3	1	ug/L	50.0		70.1	75-120			
Heptachlorobutadiene	54.0	0.8	ug/L	50.0		108	50-140			
m,p-Xylene	100	2	ug/L	100		100	75-120			
Isobutylene oxide	42.4	4	ug/L	50.0		54.9	50-140			
n-Butane	48.8	1	ug/L	50.0		55.5	50-120			
Styrene	51.2	1	ug/L	50.0		100	50-120			
Tetrachloroethylene (PCE)	75.8	1	ug/L	50.0		142	40-150			
Toluene	55.0	1	ug/L	50.0		700	75-120			
trans-1,2-Dichloroethylene	44.7	1	ug/L	50.0		55.5	50-140			
trans-1,3-Dichloropropene	40.2	1	ug/L	50.0		55.5	50-140			
Trichloroethylene	44.5	1	ug/L	50.0		57.1	75-120			
Trichlorofluoromethane	42.7	1	ug/L	50.0		55.5	50-140			
Vinyl chloride	45.9	0.5	ug/L	50.0		51.9	50-140			
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Sum: 1,2-Dichloroethane-ol (Sum)	46.1		ug/L	50.0		56.1	75-120			
Sum: 4-Bromofluorobenzene (Sum)	48.7		ug/L	50.0		57.4	75-120			
Sum: Dibromofluoromethane (Sum)	48.2		ug/L	50.0		55.3	50-110			
Sum: Toluene-ol (Sum)	48.8		ug/L	50.0		55.1	50-120			
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Merix Spike (1802181-181)	Source: 1802181-01		Prepared & Analyzed: 04/09/2018							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8902181 - 8902188										
Main: Spike (8902181-8902188)										
Source: 1804176-01 Prepared & Analyzed: 04/09/2018										
1,1,1,2-Tetrafluoroethane	48.8	0.4	ug/L	50.0	51.00	97.6	90-100			
1,1,1-Trichloroethane	48.1	1	ug/L	50.0	51.00	98.2	90-100			
1,1,2,2-Tetrafluoroethane	44.2	0.4	ug/L	50.0	51.00	88.4	90-100			
1,1,2-Trichloroethane	49.9	1	ug/L	50.0	51.00	97.8	75-120			
1,1-Dichloroethane	54.5	1	ug/L	50.0	5.80	91.7	75-120			
1,1-Dichloroethylene	45.8	1	ug/L	50.0	51.00	91.7	75-120			
1,1-Dichloroethene	46.2	1	ug/L	50.0	51.00	92.0	75-120			
1,2,2-Trichloroethane	42.9	1	ug/L	50.0	51.00	85.8	75-120			
1,2,4-Trichlorobenzene	45.1	1	ug/L	50.0	51.00	90.2	60-120			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	0.28	99.2	75-120			
1,2-Dichloroethane	53.8	1	ug/L	50.0	51.00	98.7	95-100			
1,2-Dichloroethene	44.4	1	ug/L	50.0	51.00	87.7	75-120			
1,3-Dichlorobenzene	51.2	1	ug/L	50.0	51.00	100	75-120			
1,3-Dichloroethene	45.7	1	ug/L	50.0	51.00	91.0	75-120			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0	4.88	98.0	75-120			
2,2-Dichloropropane	44.7	2	ug/L	50.0	51.00	89.0	75-120			
2-Butanone (MEK)	31.0	5	ug/L	50.0	51.00	61.0	30-100			
2-Pentanone (MIBK)	34.8	5	ug/L	50.0	51.00	71.6	60-100			
4-Methyl-2-pentanone (MIBK)	38.3	5	ug/L	50.0	51.00	76.6	60-100			
Acetone	32.0	10	ug/L	50.0	51.00	62.0	40-140			
Acrylonitrile	189	3	ug/L	200	51.00	97.8	75-100			W
Benzene	49.7	1	ug/L	50.0	1.87	98.8	60-120			
Bromochloromethane	45.1	1	ug/L	50.0	51.00	90.2	60-120			
Bromodichloromethane	49.2	0.5	ug/L	50.0	51.00	98.4	75-120			
Bromobenzene	49.1	1	ug/L	50.0	51.00	98.0	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
Matrix Spike (8000181-818)										
Source: 1808178-81 Prepared & Analyzed: 04/05/2018										
Bromomethane	29.8	1	ug/L	50.0	8.00	79.2	30-140			
Carbon disulfide	42.4	10	ug/L	50.0	8.00	84.8	30-160			
Carbon tetrachloride	53.7	1	ug/L	80.0	8.00	107	85-140			
Chloroacetylene	49.9	1	ug/L	50.0	2.89	94.0	60-120			
Chloroethane	47.4	1	ug/L	50.0	2.22	83.3	60-120			
Chloroform	42.1	0.8	ug/L	50.0	8.00	84.2	60-120			
Chloromethane	40.0	1	ug/L	50.0	0.88	78.8	60-120			
cis-1,2-Dichloroethylene	52.2	1	ug/L	50.0	9.75	84.8	70-125			
cis-1,3-Dichloropropene	42.1	1	ug/L	50.0	8.00	84.2	70-130			
Dibromochloromethane	49.9	0.2	ug/L	50.0	8.00	99.8	60-120			
Dibromomethane	45.0	1	ug/L	50.0	8.00	81.8	75-125			
Dichlorodifluoromethane	42.9	1	ug/L	50.0	8.00	83.7	30-155			
Ethylbenzene	48.9	1	ug/L	50.0	8.00	97.8	70-125			
Heptachlorobenzene	54.2	0.8	ug/L	50.0	8.00	72	30-160			
Hex Fluoride	55.8	2	ug/L	120	8.00	95.8	70-130			
Methylene chloride	41.3	4	ug/L	50.0	8.00	81.2	30-140			
n-Butane	47.4	1	ug/L	50.0	8.00	94.0	60-120			
Butene	47.7	1	ug/L	50.0	8.00	95.4	65-130			
Tetrachloroethylene (PCE)	70.4	1	ug/L	50.0	8.00	140	45-150			
Toluene	48.4	1	ug/L	50.0	8.00	96.8	75-120			
trans-1,2-Dichloroethylene	44.3	1	ug/L	50.0	3.40	87.7	60-140			
trans-1,3-Dichloropropene	48.0	1	ug/L	50.0	8.00	91.8	55-140			
Trichloroethylene	47.5	1	ug/L	50.0	1.22	83.3	70-120			
Trichlorofluoromethane	44.7	1	ug/L	50.0	8.00	89.3	60-140			
Vinyl chloride	46.2	0.8	ug/L	50.0	2.81	88.7	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802182

Matrix Spike (1802181 MS1)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
Sum 1,2-Dichloroethane (Sum)	45.8		ug/L	50.0		91.6	75-120			
Sum 4-Bromodichloroethane (Sum)	47.8		ug/L	50.0		95.6	75-120			
Sum Chloromethanes (Sum)	47.8		ug/L	50.0		95.6	80-110			
Sum Toluene (Sum)	49.8		ug/L	50.0		97.7	90-120			

Matrix Spike One (1802181 MS2)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
1,1,1,2-Tetrafluoroethane	49.7	0.4	ug/L	50.0	BLOD	99.5	80-130	8.69	30	
1,1,1-Trichloroethane	39.6	1	ug/L	50.0	BLOD	79.2	65-130	19.4	30	
1,1,1,2-Tetrafluoroethane	41.8	0.4	ug/L	50.0	BLOD	83.6	65-130	9.70	30	
1,1,2-Dichloroethane	41.3	1	ug/L	50.0	BLOD	82.6	75-125	12.6	30	
1,1-Dichloroethane	44.2	1	ug/L	50.0	6.62	71.1	70-135	20.9	30	
1,1-Dichloroethylene	37.6	1	ug/L	50.0	BLOD	75.1	70-130	18.9	30	
1,1-Dichloropropane	39.0	1	ug/L	50.0	BLOD	78.1	75-135	16.9	30	
1,2,3-Trichloropropane	39.3	1	ug/L	50.0	BLOD	78.6	75-125	7.83	30	
1,2-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	96.2	65-135	4.33	30	
1,2-Dichloroethane	45.8	1	ug/L	50.0	0.29	91.1	70-120	8.46	30	
1,2-Dichloroethane	31.4	1	ug/L	50.0	BLOD	61.9	70-130	21.1	30	M
1,2-Dichloropropane	38.9	1	ug/L	50.0	BLOD	78.7	75-125	13.2	30	
1,3-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	90.2	75-125	16.8	30	
1,3-Dichloropropane	38.1	1	ug/L	50.0	BLOD	76.1	75-125	15.1	30	
1,4-Dichlorobenzene	48.1	1	ug/L	50.0	4.85	96.4	75-125	11.4	30	
1,2-Dichloropropane	37.7	2	ug/L	50.0	BLOD	75.4	75-130	16.8	30	
3-Pentanone (MIX)	39.8	5	ug/L	50.0	BLOD	89.6	30-100	7.71	30	
2-Hexanone (MIX)	34.8	5	ug/L	50.0	BLOD	69.6	35-130	5.06	30	
4-Methyl-2-pentanone (MIX)	35.0	5	ug/L	50.0	BLOD	70.0	65-130	11.8	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1804181 - 1804208										
Matrix Spike Spig (1804181-1804208)										
Source: 180418-01 Preserved & Analyzed: 04/09/2018										
Acetone	36.8	10	ug/L	50.0	54.00	73.6	40-140	51.3	30	
Acrylonitrile	121	5	ug/L	200	51.00	50.4	75-130	51.4	30	W
Benzene	42.8	1	ug/L	50.0	1.87	51.4	50-130	53.4	30	
Bromochloromethane	49.9	1	ug/L	50.0	51.00	51.0	55-130	59.2	30	
Bromodichloromethane	41.5	0.5	ug/L	50.0	51.00	52.1	75-130	58.2	30	
Bromotoluene	55.7	1	ug/L	50.0	51.00	53.4	75-130	52.0	30	
Bromomethane	33.3	1	ug/L	50.0	51.00	55.8	20-140	57.2	30	
Carbon disulfide	34.4	10	ug/L	50.0	51.00	54.8	35-160	55.9	30	
Carbon tetrachloride	44.7	1	ug/L	50.0	51.00	55.5	55-140	55.3	30	
Chlorobenzene	45.8	1	ug/L	50.0	1.89	55.4	50-130	42.8	30	
Dibromofluoromethane	54.7	1	ug/L	50.0	3.33	54.5	55-135	35.5	30	
Chloroform	34.8	0.5	ug/L	50.0	51.00	55.4	55-135	55.5	30	
Dichloromethane	31.5	1	ug/L	50.0	0.59	52.5	40-135	22.8	30	
o-1,2-Dichlorobenzene	44.0	1	ug/L	50.0	5.75	55.5	75-135	57.1	30	W
o-1,2-Dichlorobenzene	35.3	1	ug/L	50.0	51.00	50.7	55-135	51.5	30	
Dibromochloromethane	42.8	0.5	ug/L	50.0	51.00	57.1	50-135	53.5	30	
Dibromomethane	55.5	1	ug/L	50.0	51.00	77.2	75-135	57.4	30	
Dibromodifluoromethane	31.3	1	ug/L	50.0	51.00	54.8	30-135	25.1	30	
Ethylbenzene	43.8	1	ug/L	50.0	51.00	57.3	75-135	51.3	30	
Heptachlorobutadiene	51.1	0.8	ug/L	50.0	51.00	122	55-140	8.25	30	
m,p-Xylenes	57.1	2	ug/L	100	51.00	57.1	75-135	54.3	30	
Methylene chloride	35.3	4	ug/L	50.0	51.00	55.5	55-140	55.4	30	
p-Xylene	42.8	1	ug/L	50.0	51.00	55.2	50-135	50.7	30	
Toluene	43.3	1	ug/L	50.0	51.00	55.5	55-135	54.1	30	
Tetrachloroethylene (PCE)	54.5	1	ug/L	50.0	51.00	123	45-135	5.75	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1804181 - 1804182

Matrix Spike Log (1804181-1804182)	Source: 180418-01		Prepared & Analyzed: 04/09/2018							
Toluene	43.8	1	ug/L	50.0	BLOD	87.6	75-120	15.8	30	
trans-1,2-Dichloroethene	27.1	1	ug/L	50.0	0.40	73.8	80-140	17.7	30	
trans-1,3-Dichloropropene	39.9	1	ug/L	50.0	BLOD	79.0	55-140	15.2	30	
Trichloroethylene	49.2	1	ug/L	50.0	1.33	92.4	70-120	9.39	30	
Trichlorofluoromethane	38.2	1	ug/L	50.0	BLOD	72.3	60-145	21.0	30	
Vinyl chloride	36.7	0.5	ug/L	50.0	2.90	67.6	50-145	23.0	30	
Sum: 1,2-Dichloroethane-d4 (Sum)	43.2		ug/L	50.0		86.5	70-120			
Sum: 4-Bromofluorobenzene (Sum)	46.8		ug/L	50.0		93.6	75-120			
Sum: Dibromofluoromethane (Sum)	42.9		ug/L	50.0		85.9	80-119			
Sum: Toluene-d8 (Sum)	47.3		ug/L	50.0		94.5	85-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8800114 - 8800130

Blank (8800114-8800130)	Filtered, 04/09/2018 Analyzed, 04/18/2018									
1,2,4,5-Tetrahalobenzene	BL00	10.0	ug/L							
1,3,5-Trichlorobenzene	BL00	5.00	ug/L							
1,3-Dichlorobenzene	BL00	2.50	ug/L							
1,4-Hydroquinone	BL00	10.0	ug/L							
1-Methylpiperazine	BL00	10.0	ug/L							
1,2,4,6-Tetrahalobenzene	BL00	10.0	ug/L							
2,4,6-Trichlorophenol	BL00	10.0	ug/L							
2,4,6-Trichlorophenol	BL00	10.0	ug/L							
2,4-Dichlorophenol	BL00	10.0	ug/L							
2,4-Dichlorophenol	BL00	10.0	ug/L							
1,4-Dichlorophenol	BL00	10.0	ug/L							
1,4-Dichlorophenol	BL00	10.0	ug/L							
2,6-Dichlorophenol	BL00	10.0	ug/L							
2,6-Dichlorophenol	BL00	10.0	ug/L							
2-Acetylaminofluorene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenol	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichlorobenzidine	BL00	10.0	ug/L							
2,7-Dimethylbenzidine	BL00	2.50	ug/L							
2-Methylimidazole	BL00	10.0	ug/L							
2-Nitroimidazole	BL00	20.0	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 890214 - 890215C										
Blank (890214-890215) Prepared: 04/09/2018 Analyzed: 04/18/2018										
1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	10.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nitro-2-naphthol	BL00	10.0	ug/L							
1,2-Dibromobenzene (o) sulfonamide	BL00	10.0	ug/L							
Azaphenanthrene	BL00	10.0	ug/L							
Azobenzene	BL00	10.0	ug/L							
Azobenzene	BL00	10.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzene (o) sulfonamide	BL00	0.05	ug/L							
Benzene (o) sulfonamide	BL00	0.10	ug/L							
Benzene (o) sulfonamide	BL00	10.0	ug/L							
Benzene (p) sulfonamide	BL00	10.0	ug/L							
Benzene (p) sulfonamide	BL00	10.0	ug/L							
Benzyl alcohol	BL00	10.0	ug/L							
1,3-Dichlorobenzene	BL00	10.0	ug/L							
1,3-Dichlorobenzene	BL00	10.0	ug/L							
1,2-Dichloro-4-methylbenzene	BL00	10.0	ug/L							
1,2-Dichloro-5-methylbenzene	BL00	10.0	ug/L							
1,2-Dichlorobenzene	BL00	2.50	ug/L							
1,2-Dichlorobenzene	BL00	10.0	ug/L							
1,2-Dichlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 89001H - 89001C

Batch (89001H-89001C)	Prepared: 04/09/2018 Analyzed: 04/18/2018									
Chrysen	BL00	10.0	ug/L							
Dibenz	BL00	2.50	ug/L							
Dibenz (a,h) anthracene	BL00	10.0	ug/L							
Dimethylbenzene	BL00	0.50	ug/L							
Dodecyl phthalate	BL00	10.0	ug/L							
Dodecane	BL00	2.50	ug/L							
Dodecyl phthalate	BL00	10.0	ug/L							
Dinonyl phthalate	BL00	10.0	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Diphenylene	BL00	10.0	ug/L							
Dibutyl	BL00	2.50	ug/L							
Ethyl methanesulfonate	BL00	20.0	ug/L							
Ethyl parathion	BL00	2.50	ug/L							
Fenchone	BL00	2.50	ug/L							
Fluoranthene	BL00	10.0	ug/L							
Fluorene	BL00	10.0	ug/L							
Hexachlorobenzene	BL00	0.50	ug/L							
Hexachlorobutadiene	BL00	10.0	ug/L							
Hexachlorocyclopentadiene	BL00	10.0	ug/L							
Hexachloroethane	BL00	10.0	ug/L							
Hexachloropropene	BL00	2.50	ug/L							
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L							
Isobutene	BL00	10.0	ug/L							
Isophenanthrene	BL00	10.0	ug/L							
Isoprene	BL00	10.0	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900114 - 8900115										
Blank (8900114-890115) Prepared: 04/09/2018 Analyzed: 04/18/2018										
Acetone	BL00	2.50	ug/L							
m,p-Creosol	BL00	10.0	ug/L							
Methoxytolene	BL00	10.0	ug/L							
Methyl methanesulfonate	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitroindole	BL00	2.50	ug/L							
n-Nitrodimethylaniline	BL00	10.0	ug/L							
n-Nitrodi-n-butylamine	BL00	10.0	ug/L							
n-Nitrodi-n-octylamine	BL00	10.0	ug/L							
n-Nitroethylaniline	BL00	10.0	ug/L							
n-Nitrosodimethylaniline	BL00	2.50	ug/L							
n-Nitrosopyrrolone	BL00	10.0	ug/L							
n-Nitrosotoluene	BL00	2.50	ug/L							
o,o-Dithyl phosphorothioate	BL00	10.0	ug/L							
o,o-Dithyl n-P-cyanetyl phosphorothioate	BL00	10.0	ug/L							
o-m,p-Creosol	BL00	10.0	ug/L							
n-Creosol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetone	BL00	2.50	ug/L							
p-Chloro-m-cresol	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachloronitrobenzene (quinoline)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B000114 - B00150										
Blank (B000114-BLANK) Prepared: 04/05/2018 Analyzed: 04/09/2018										
Phenanthrene	BL00	10.0	ug/L							
Phenol	BL00	10.0	ug/L							
Phonol	BL00	2.50	ug/L							
p-Phenylenediamine	BL00	10.0	ug/L							
Pronamide	BL00	10.0	ug/L							
Pyrene	BL00	10.0	ug/L							
Safrole	BL00	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	67.0		ug/L	100		67.0	20-66			
Sum: 2-Fluorobiphenyl (Sum)	38.8		ug/L	50.0		77.1	23-87			
Sum: 2-Fluorophenol (Sum)	48.9		ug/L	100		48.9	10-52			
Sum: Nitrobenzene-d5 (Sum)	35.9		ug/L	50.0		71.8	10-68.5			
Sum: Phenol-d5 (Sum)	30.2		ug/L	100		30.2	5-33			
Sum: p-Terphenyl-d14 (Sum)	30.1		ug/L	50.0		60.2	27-133			
LCS (B000154-B51) Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	35.8	10.0	ug/L	50.0		73.7	21.8-66.7			L
1,2-Dichlorobenzene	35.6	10.0	ug/L	50.0		71.2	22-60			L
1,3-Dichlorobenzene	33.2	10.0	ug/L	50.0		66.5	22-60			L
1,4-Dichlorobenzene	34.7	10.0	ug/L	50.0		69.5	13-68			L
1-Chloronaphthalene	39.9	10.0	ug/L	50.0		79.8	9-200			
2,4,6-Trichlorophenol	36.8	10.0	ug/L	50.0		73.6	50-119			
2,4-Dichlorophenol	41.1	10.0	ug/L	50.0		82.2	50-108			
2,4-Dimethylphenol	38.8	0.50	ug/L	50.0		77.6	50-119			
2,4-Dinitrophenol	48.3	50.0	ug/L	50.0		96.6	15-140			
2,4-Dinitrotoluene	45.7	10.0	ug/L	50.0		91.4	21-88			

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limit	RPD	RPD Limit	Qual
Batch: 8900114 - 8900130										
LC8 (8900114-891)										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	36.3	10.0	ug/L	50.0		79.6	15-140			
1-Chloroacetylene	36.4	10.0	ug/L	50.0		79.8	40-100			
1-Chloroethane	36.1	10.0	ug/L	50.0		76.1	15-74			L
1-Propanol	39.2	10.0	ug/L	50.0		79.4	40-110			
1,1-Dichloroethylene	40.0	10.0	ug/L	50.0		80.0	20-110			
1,1-Dimethyl-2-methoxypropane	36.8	10.0	ug/L	50.0		77.8	40-130			
4-Bromophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.4	15-110			
4-Chlorophenyl phenyl ether	42.8	10.0	ug/L	50.0		87.7	15-110			
4-Nitrophenol	21.6	10.0	ug/L	50.0		43.0	0-100			
Acenaphthene	40.3	10.0	ug/L	50.0		80.6	27.7-85.3			
Acenaphthylene	40.5	10.0	ug/L	50.0		80.9	50-100			
Acenaphthylene	35.0	10.0	ug/L	50.0		69.9	0-200			
alpha-Terpinol	43.0	2.50	ug/L	50.0		86.0	0-200			
Anthracene	43.0	10.0	ug/L	50.0		87.2	50-110			
Benzo (a) anthracene	41.0	2.00	ug/L	50.0		82.0	50-110			
Benzo (a) pyrene	39.2	0.10	ug/L	50.0		78.4	50-110			
Benzo (b) fluoranthene	42.0	10.0	ug/L	50.0		84.0	40-100			
Benzo (g,h,i) perylene	36.0	10.0	ug/L	50.0		72.0	40-100			
Benzo (k) fluoranthene	38.4	10.0	ug/L	50.0		76.8	40-100			
Is (2-Chloromethyl) methane	38.3	10.0	ug/L	50.0		76.6	40-100			
Is (2-Chloromethyl) ether	38.5	10.0	ug/L	50.0		76.9	40-100			
1,7-Dioxin (1-chloropropane)	35.2	10.0	ug/L	50.0		70.4	40-100			
Is (2-Ethylhexyl) phthalate	34.0	2.50	ug/L	50.0		67.9	40-100			
Butyl benzyl phthalate	37.1	10.0	ug/L	50.0		74.2	40-110			
Carbazole	44.4	2.50	ug/L	50.0		88.8	0-200			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 890011H - 890010C										
LOQ (890011H-891)										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
Chrysene	29.3	10.0	ug/L	50.0		79.4	55-110			
Dibenz (a,h) anthracene	24.0	10.0	ug/L	50.0		79.1	40-120			
Dodecyl phthalate	41.1	10.0	ug/L	50.0		82.2	40-120			
Dodecyl sebacate	24.9	10.0	ug/L	50.0		77.0	20-120			
Dodecyl stearate	44.5	10.0	ug/L	50.0		89.0	55-110			
Di-n-octyl sebacate	44.4	10.0	ug/L	50.0		88.7	20-120			
Fluoranthene	45.6	10.0	ug/L	50.0		91.2	50-110			
Fluorene	42.2	10.0	ug/L	50.0		84.4	50-110			
Hexachlorocyclopentadiene	49.8	5.00	ug/L	50.0		85.7	25-120			
Hexachlorobutadiene	43.7	10.0	ug/L	50.0		87.4	20-120			
Hexachlorocyclopentadiene	24.3	10.0	ug/L	50.0		48.6	25-120			
Hexachlorothere	34.9	10.0	ug/L	50.0		69.8	20-120			
Indeno (1,2,3-cd) pyrene	30.1	10.0	ug/L	50.0		78.3	40-120			
Isophthalic	33.0	10.0	ug/L	50.0		87.0	10-110			
Isophthalic	28.2	10.0	ug/L	50.0		79.4	40-100			
Nitrobenzene	33.4	10.0	ug/L	50.0		78.7	40-100			
m-Nitrodimethylamine	27.1	10.0	ug/L	50.0		54.2	20-110			
m-Nitrodi-n-propylamine	24.0	10.0	ug/L	50.0		72.1	10-87			
m-Nitrodiphenylamine	34.4	10.0	ug/L	50.0		88.8	10-87			
p-Chloro-m-cresol	41.5	10.0	ug/L	50.0		83.0	10-91			
Phthalic anhydride	40.4	20.0	ug/L	50.0		80.8	20-100			
Phenanthrene	39.0	10.0	ug/L	50.0		78.1	50-110			
Phenol	19.9	10.0	ug/L	50.0		39.8	0-100			
Pyrene	24.0	10.0	ug/L	50.0		48.0	27-110			
Pyridine	24.8	10.0	ug/L	50.0		49.6	0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: B0001H - B0005C										
LOQ (B0001H-B0005C) Prepared: 04/05/2018 Analyzed: 04/09/2018										
Sum 2,4,6-Trichlorophenol (Sum)	81.8		ug/L	100		81.8	20-80			
Sum 2-Fluorophenyl (Sum)	41.8		ug/L	50.0		41.7	20-80			
Sum 3-Fluorophenyl (Sum)	58.8		ug/L	100		58.8	10-50			S
Sum Nitrobenzene-D7 (Sum)	41.2		ug/L	50.0		42.9	10-90.0			
Sum Phenol-D5 (Sum)	37.7		ug/L	100		37.7	5-35			S
Sum p-Nitrophenyl-D14 (Sum)	54.3		ug/L	50.0		54.3	27-133			
Matrix Spike (B0001H-B0005C) Source: B0001H-B0005C Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	43.8	10.8	ug/L	54.3	BLOD	78.7	21.8-66.7			M
1,2-Dichloroethane	41.7	10.8	ug/L	54.3	BLOD	76.7	22-60			M
1,3-Dichloroethane	56.0	10.8	ug/L	54.3	BLOD	71.6	22-60			M
1,1-Dibromochloroethane	45.8	10.8	ug/L	54.3	2.40	76.3	22-60			M
1-Chloronaphthalene	45.8	10.8	ug/L	54.3	BLOD	83.8	0-200			
2,4,6-Trichlorophenol	44.1	10.8	ug/L	54.3	BLOD	81.2	50-115			
1,4-Dichlorophenol	47.7	10.8	ug/L	54.3	BLOD	87.8	50-105			
2,4-Dimethylphenol	41.6	0.54	ug/L	54.3	BLOD	76.5	30-110			
1,4-Dinitrophenol	60.5	54.3	ug/L	54.3	BLOD	120	15-140			
1,4-Dinitrotoluene	52.8	10.8	ug/L	54.3	BLOD	90.8	15-111			
1,5-Dinitrotoluene	45.8	10.8	ug/L	54.3	BLOD	84.3	15-140			
2-Chloronaphthalene	44.0	10.8	ug/L	54.3	BLOD	81.8	40-100			
3-Chlorophenol	45.1	10.8	ug/L	54.3	BLOD	79.4	10-64			M
2-Nitrophenol	45.7	10.8	ug/L	54.3	BLOD	84.0	40-115			
1,3-Dichlorobenzene	58.8	10.8	ug/L	54.3	BLOD	54.8	20-110			
4,6-Dinitro-2-methylphenol	51.1	54.3	ug/L	54.3	BLOD	94.0	40-130			
4-Bromophenyl phenyl ether	62.8	10.8	ug/L	54.3	BLOD	97.2	15-110			

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 180414H - 180418C										
Main: Spike (180414H-181)										
Source: 180414H-1										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
4-Chlorophenyl phenyl ether	51.5	10.8	ug/L	54.3	51.0	94.0	95-110			
4-Nitrophenol	23.8	54.3	ug/L	54.3	51.0	94.0	0-120			
Acenaphthene	47.8	10.8	ug/L	54.3	51.0	94.0	24-90			
Acenaphthylene	48.0	10.8	ug/L	54.3	51.0	94.0	50-100			
Acenaphthene	38.2	21.7	ug/L	54.3	51.0	94.0	0-200			
alpha-Terpinene	51.8	8.17	ug/L	54.3	51.0	94.0	0-200			
Anthracene	49.8	10.8	ug/L	54.3	51.0	94.0	30-110			
Benz[e]anthracene	48.5	0.08	ug/L	54.3	51.0	94.0	55-110			
Benz[e]pyrene	48.4	8.17	ug/L	54.3	51.0	94.0	55-110			
Benz[b]fluoranthene	47.8	10.8	ug/L	54.3	51.0	94.0	40-120			
Benz[b]k[a]pyrene	44.1	10.8	ug/L	54.3	51.0	94.0	45-120			
Benz[a]fluoranthene	48.3	10.8	ug/L	54.3	51.0	94.0	45-120			
1,6-Dichloro-2-naphthol	44.7	10.8	ug/L	54.3	51.0	94.0	40-120			
1,6-Dichloro-2-naphthol	43.4	10.8	ug/L	54.3	51.0	94.0	40-120			
2,7-Diethyl-1-naphthol	28.9	10.8	ug/L	54.3	51.0	94.0	40-120			
1,6-Diethyl-2-naphthol	40.0	2.72	ug/L	54.3	51.0	94.0	40-120			
Butyl benzyl phenyl ether	44.4	10.8	ug/L	54.3	51.0	94.0	45-110			
Carbazole	55.8	2.72	ug/L	54.3	51.0	94.0	0-200			
Chrysene	47.2	10.8	ug/L	54.3	51.0	94.0	55-110			
Dibenz[a,h]anthracene	47.8	10.8	ug/L	54.3	51.0	94.0	40-120			
Diethyl phthalate	30.4	10.8	ug/L	54.3	1.97	99.8	40-120			
Dimethyl phthalate	44.8	10.8	ug/L	54.3	51.0	94.0	25-120			
Di-n-butyl phthalate	54.8	10.8	ug/L	54.3	51.0	94.0	55-110			
Di-n-octyl phthalate	51.8	10.8	ug/L	54.3	51.0	94.0	35-120			
Fluoranthene	50.8	10.8	ug/L	54.3	51.0	94.0	55-110			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 180414H - 180414C

Matrix Spike (180414H-01)	Source: 180414H-01	Prepared: 04/09/2018	Analyzed: 04/09/2018							
Fluorene	49.2	10.8	ug/L	54.3	BLCO	90.8	50-110			
Fluoranthene	53.1	0.05	ug/L	54.3	BLCO	97.7	25-125			
Benzo[a]fluoranthene	52.2	10.8	ug/L	54.3	BLCO	96.0	25-125			
Benzo[b]fluoranthene	27.7	10.8	ug/L	54.3	BLCO	90.9	25-125			
Benzo[k]fluoranthene	41.8	10.8	ug/L	54.3	BLCO	76.8	25-125			
Benzo[e]pyrene	17.8	10.8	ug/L	54.3	BLCO	87.1	40-160			
Benzo[a]pyrene	26.1	10.8	ug/L	54.3	BLCO	71.8	10-110			
Benzo[a]anthracene	44.2	10.8	ug/L	54.3	BLCO	81.6	40-160			
Benzo[b]anthracene	44.8	10.8	ug/L	54.3	BLCO	82.0	40-160			
1-methylanthracene	27.8	10.8	ug/L	54.3	BLCO	81.1	25-110			
1-methyl-2-naphthol	40.8	10.8	ug/L	54.3	BLCO	75.2	12-87			
1-methyl-3-naphthol	34.9	10.8	ug/L	54.3	BLCO	72.7	12-87			
1-Chloro-2-naphthol	40.1	10.8	ug/L	54.3	BLCO	80.4	10-81			
2-methyl-naphthalene	99.0	21.7	ug/L	54.3	BLCO	109	27-109			W
Phenanthrene	49.0	10.8	ug/L	54.3	BLCO	90.2	50-110			
Phenol	20.2	10.8	ug/L	54.3	BLCO	37.0	0-105			
Pyrene	35.7	10.8	ug/L	54.3	BLCO	65.7	25-110			
Pyrene	26.1	10.8	ug/L	54.3	BLCO	51.6	0-200			
Sum: 2,4,6-Trinitrophenol (Sum)	100		ug/L	100		93.8	20-60			W
Sum: 2-Fluorophenyl (Sum)	47.8		ug/L	54.3		87.8	23-87			W
Sum: 3-Fluorophenyl (Sum)	40.4		ug/L	100		40.8	15-55			
Sum: Nitrobenzene(s) (Sum)	49.0		ug/L	54.3		90.2	70-90.2			
Sum: Phenol(s) (Sum)	20.2		ug/L	100		24.8	1-12			W
Sum: p-Nitrophenol(s) (Sum)	26.1		ug/L	54.3		70.7	27-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 180414H - 180418C										
Main: Spike Spg (180414H-180418C)										
Source: 180414H-180418C Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	72.8	21.8-88.7	7.75	20	NS
1,2-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	71.8	22-85	8.26	20	NS
1,3-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	88.8	22-88	8.58	20	NS
1,4-Dichlorobenzene	40.8	10.8	ug/L	34.3	BLCO	70.8	22-80	7.22	20	NS
1-Chloro-2-naphthalene	41.4	10.8	ug/L	34.3	BLCO	78.7	0-200	8.85	20	
1,4-d. Dinitrobenzene	40.8	10.8	ug/L	34.3	BLCO	73.7	50-115	8.88	20	
2,4-Dinitrophenol	43.1	10.8	ug/L	34.3	BLCO	79.8	20-100	79.2	20	
2,4-Dimethylphenol	36.2	9.24	ug/L	34.3	BLCO	88.8	30-110	14.3	20	
2,4-Dibromophenol	88.8	34.8	ug/L	34.8	BLCO	112	10-140	7.44	20	
2,4-Dinitroanisole	47.8	10.8	ug/L	34.3	BLCO	88.7	12-111	8.28	20	
2,6-Dinitroanisole	41.4	10.8	ug/L	34.3	BLCO	78.7	18-148	10.3	20	
1-Chloro-3-naphthalene	41.2	10.8	ug/L	34.3	BLCO	74.7	45-105	8.58	20	
2-Chlorophenol	38.8	10.8	ug/L	34.3	BLCO	72.8	18-84	8.48	20	NS
2-Nitrophenol	41.3	10.8	ug/L	34.3	BLCO	78.7	40-115	9.82	20	
2,7-Dichlorodiphenyl ether	28.8	70.8	ug/L	34.3	BLCO	48.8	20-110	11.7	20	
4,6-Dinitro-2-methylphenol	47.2	34.2	ug/L	34.3	BLCO	88.8	40-130	7.78	20	
4-Bromophenyl phenyl ether	47.8	10.8	ug/L	34.3	BLCO	88.4	18-118	11.8	20	
4-Chlorophenyl phenyl ether	45.8	10.8	ug/L	34.3	BLCO	82.8	18-118	12.2	20	
4-Nitrophenol	22.8	54.3	ug/L	34.3	BLCO	41.8	0-128	8.58	20	
Acenaphthene	43.2	10.8	ug/L	34.3	BLCO	78.8	24-96	10.3	20	
Acenaphthylene	42.8	10.8	ug/L	34.3	BLCO	78.8	20-100	11.1	20	
Acetylphenone	38.2	21.7	ug/L	34.3	BLCO	88.8	0-200	8.87	20	
alpha-Terpinene	88.8	2.73	ug/L	34.3	BLCO	84.2	0-200	10.8	20	
Anthracene	48.8	10.8	ug/L	34.3	BLCO	82.8	50-110	8.88	20	
Benz(a)anthracene	45.4	0.88	ug/L	34.3	BLCO	82.8	50-110	8.88	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limits	RPD	RPD Limit	Qual
Batch: 880014H - 880018C										
Main: Spike Exp (880014H-880018C)										
Source: 880018-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Benzene (a) pyrene	44.0	0.71	ug/L	54.3	BL00	67.0	55-110	5.29	20	
Benzene (a) fluoranthene	43.8	10.9	ug/L	54.3	BL00	60.8	40-120	8.48	20	
Benzene (b) fluorene	41.0	10.9	ug/L	54.3	BL00	75.8	40-120	7.18	20	
Benzene (b) fluoranthene	47.8	10.9	ug/L	54.3	BL00	68.0	40-120	9.00	20	
Isa (2-Quinolineyl) methane	40.3	10.9	ug/L	54.3	BL00	73.8	40-120	10.7	20	
Isa (2-Quinolineyl) ether	40.1	10.9	ug/L	54.3	BL00	73.7	40-120	7.90	20	
2,7-Diethyl (1-benzopyrene)	36.9	10.9	ug/L	54.3	BL00	67.8	40-120	7.20	20	
Isa (2-Ethynyl) phenanthrene	37.0	2.72	ug/L	54.3	BL00	68.8	40-120	12.5	20	
Butyl benzyl phenoxide	46.4	16.9	ug/L	54.3	BL00	74.0	40-110	9.44	20	
Chrysene	53.0	2.72	ug/L	54.3	BL00	66.4	0-200	5.67	20	
Dibenz(a,h)	40.1	10.9	ug/L	54.3	BL00	70.0	55-110	9.20	20	
Dibenz(a,h) anthracene	44.8	10.9	ug/L	54.3	BL00	62.4	40-120	8.88	20	
Dialyl phenoxide	45.5	10.9	ug/L	54.3	1.87	60.8	40-120	10.3	20	
Dimethyl phenoxide	40.7	10.9	ug/L	54.3	BL00	74.0	20-120	71.8	20	
Diphenyl phenoxide	50.2	70.0	ug/L	54.3	BL00	60.0	50-110	6.60	20	
Diphenyl phenoxide	47.9	10.9	ug/L	54.3	BL00	68.2	30-130	7.47	20	
Fluoranthene	40.8	10.1	ug/L	54.3	BL00	70.2	50-110	8.85	20	
Fluorene	44.4	10.9	ug/L	54.3	BL00	61.8	50-110	10.3	20	
Hexachlorobenzene	47.0	0.00	ug/L	54.3	BL00	68.8	25-120	11.7	20	
Hexachlorobutadiene	47.8	10.9	ug/L	54.3	BL00	68.0	25-120	8.78	20	
Hexachlorocyclopentadiene	23.8	10.9	ug/L	54.3	BL00	63.0	20-120	16.1	20	
Hexachloroethane	27.9	10.9	ug/L	54.3	BL00	60.8	20-120	9.24	20	
Indeno (1,2,3-cd) pyrene	44.3	10.9	ug/L	54.3	BL00	61.4	40-120	6.87	20	
Isophthalene	35.8	10.9	ug/L	54.3	BL00	66.8	10-110	8.77	20	
Naphthalene	40.7	10.9	ug/L	54.3	BL00	74.8	40-100	8.28	20	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 88001H - 88001C										
Main: Spike Drop (88001H-88001C) Source: 88001H-81 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Nitrobenzene	41.3	10.8	ug/L	54.3	BLOD	79.8	40-100	7.88	20	
m-Nitrodimethylamine	29.2	10.8	ug/L	54.3	BLOD	48.2	25-110	5.71	20	
m-Nitroo-n-propylamine	37.8	10.8	ug/L	54.3	BLOD	88.8	13-87	7.42	20	
n-Nitroodiphenylamine	90.9	10.8	ug/L	54.3	BLOD	68.9	12-87	10.7	20	
p-Chloroaniline	44.3	10.8	ug/L	54.3	BLOD	81.5	10-91	10.3	20	
Para-chlorophenol	54.8	21.7	ug/L	54.3	BLOD	101	27-109	8.12	20	
Phenylthiourea	42.9	10.8	ug/L	54.3	BLOD	79.0	50-115	8.01	20	
Propyl	18.5	10.8	ug/L	54.3	BLOD	33.7	0-115	9.25	20	
Pyrene	59.2	10.8	ug/L	54.3	BLOD	59.2	23-110	10.5	20	
Pyrene	21.8	10.8	ug/L	54.3	BLOD	43.5	0-200	17.4	20	
Sum 2,4,6-Trinitrophenol (Sum)	88.9		ug/L	100		81.7	20-60			
Sum 2-Fluorobiphenyl (Sum)	42.7		ug/L	54.3		78.6	23-67			
Sum 2-Fluorophenol (Sum)	43.8		ug/L	100		40.1	10-52			
Sum Nitrobenzenesulf (Sum)	41.5		ug/L	54.3		75.5	10-98.5			
Sum Phenol-sulf (Sum)	21.8		ug/L	100		31.1	5-33			
Sum p-Toluenesulfid (Sum)	34.9		ug/L	54.3		64.2	27-133			

Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch #000181 - 000180

Blank (0000181-000180)	Prepared: 04/09/2018 Analyzed: 04/18/2018									
PCB as Aroclor 1218	BL00	0.200	ug/L							
4,4'-DDE	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.200	ug/L							
PCB as Aroclor 1212	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.200	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.200	ug/L							
beta-BHC	BL00	0.200	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.200	ug/L							
Endosulfan I	BL00	0.200	ug/L							
Endosulfan II	BL00	0.200	ug/L							
Endosulfan sulfate	BL00	0.200	ug/L							
Esfenvalerate	BL00	0.200	ug/L							
Esfenvalerate	BL00	0.200	ug/L							
gamma-BHC (Lindane)	BL00	0.200	ug/L							
Heptachlor	BL00	0.200	ug/L							
Heptachlor epoxide	BL00	0.200	ug/L							
Methoxychlor	BL00	0.200	ug/L							

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Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
Batch: 8800181 - 8800180										
Batch: 8800181-8800180										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Hexachlorocyclopentadiene	BLD	1.00	ug/L			50.0	20-100			
Sum PCB	0.100		ug/L	0.200		70.0	10-112			
Sum TCDF	0.100		ug/L	0.200		90.0	30-100			
Sum Dioxin	0.100		ug/L	0.200		70.0	27-131			
OCB (8800181-8800180)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1'-DDT	0.080	0.050	ug/L	0.100		80.0	23-134			
1,1'-DDE	0.090	0.050	ug/L	0.100		90.0	23-134			
1,1'-DDT	0.070	0.050	ug/L	0.100		70.0	23-134			
Alrin	0.070	0.050	ug/L	0.100		70.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Chlorob	0.090	0.050	ug/L	0.100		80.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
Exin	0.090	0.050	ug/L	0.100		80.0	23-134			
Exin sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.080	0.050	ug/L	0.100		80.0	23-134			
Mirex	0.070	0.050	ug/L	0.100		70.0	23-134			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18041811 - 18041810										
LOQ (8800181-881) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Sum PCMX	0.100		ug/L	0.200		75.0	18-112			
Sum PCB	0.140		ug/L	0.200		70.0	27-131			
LOQ (8800181-882) Prepared: 04/09/2018 Analyzed: 04/09/2018										
PCB as Aroclor 1218	0.530	0.200	ug/L	1.00		53.0	40-90			
PCB as Aroclor 1260	0.560	0.200	ug/L	1.00		56.0	40-90			
Sum PCB	0.100		ug/L	0.200		50.0	30-105			
Sum PCMX	0.100		ug/L	0.200		50.0	30-105			
LOQ (8800181-883) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Total PCBs	1.05	1.00	ug/L	2.50		74.0	23-134			
Sum PCMX	0.100		ug/L	0.200		65.0	18-112			
Sum PCB	0.100		ug/L	0.200		60.0	27-131			
LOQ (8800181-884) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Total PCBs	1.74	0.200	ug/L	2.00		87.0	23-134			
Sum PCMX	0.100		ug/L	0.200		60.0	18-112			
Sum PCB	0.100		ug/L	0.200		60.0	27-131			
Matrix Spike (8800181-885) Source: 18041811-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
4,4'-DDE	0.126	0.050	ug/L	0.100	BLDG	126	23-134			
4,4'-DDE	0.170	0.050	ug/L	0.100	BLDG	169	23-134			W
4,4'-DDT	0.126	0.050	ug/L	0.100	BLDG	126	23-134			
Arochl	0.090	0.050	ug/L	0.100	BLDG	90.0	23-134			
alpha-BHC	0.140	0.050	ug/L	0.100	BLDG	140	23-134			W
beta-BHC	0.170	0.050	ug/L	0.100	BLDG	169	23-134			W

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 1802181 - 180218C										
Matrix Spike (1802181-MS1)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
Endosulfan-C	0.106	0.053	ug/L	0.106	BLOD	100	23-134			
Desferal	0.100	0.050	ug/L	0.106	BLOD	750	23-134			M
Endosulfan I	0.095	0.048	ug/L	0.106	BLOD	80.0	23-134			
Endosulfan II	0.100	0.050	ug/L	0.106	BLOD	100	23-134			
Endosulfan sulfate	0.125	0.063	ug/L	0.106	BLOD	120	23-134			
Evans	0.120	0.060	ug/L	0.106	BLOD	120	23-134			
Endrin aldehyde	0.085	0.043	ug/L	0.106	BLOD	80.0	23-134			
gamma-BHC (Lindane)	0.104	0.052	ug/L	0.106	BLOD	100	23-134			
Heptachlor	0.117	0.059	ug/L	0.106	BLOD	110	23-134			
Heptachlor epoxide	0.117	0.059	ug/L	0.106	BLOD	110	23-134			
Methoxychlor	0.120	0.060	ug/L	0.106	BLOD	120	23-134			
Metolachlor	0.074	0.037	ug/L	0.106	BLOD	70.0	23-134			
Sum PCMX	0.138		ug/L	0.212		65.0	18-112			
Sum PCB	0.181		ug/L	0.212		90.0	27-131			
Matrix Spike (1802181-MS2)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	1.10	0.220	ug/L	1.10	BLOD	101	40-120			M
PCB as Aroclor 1260	1.09	0.220	ug/L	1.10	BLOD	99.0	40-120			
Sum PCB	0.140		ug/L	0.220		63.0	20-100			
Sum PCMX	0.137		ug/L	0.220		62.0	20-100			
Matrix Spike Dup (1802181-MSD1)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
4,4'-DDD	0.086	0.043	ug/L	0.106	BLOD	80.0	23-134	26.0	20	P
4,4'-DDE	0.129	0.064	ug/L	0.106	BLOD	100	23-134	27.8	20	P
4,4'-DDT	0.086	0.043	ug/L	0.106	BLOD	80.0	23-134	26.0	20	P
Arochl	0.075	0.037	ug/L	0.106	BLOD	70.0	23-134	21.6	20	P

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NPLC	NPLC Limit	RPD	RPD Limit	Qual
Batch B602181 - B60218C										
Matrix Spike Dup (B602181-B60218C)										
	Source: B60218A-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
alpha-BHC	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	65.7	20	P
beta-BHC	0.108	0.054	ug/L	0.100	BL00	100	25-124	49.1	20	P
gamma-BHC	0.088	0.054	ug/L	0.100	BL00	80.0	25-124	21.2	20	P
Delta	0.119	0.054	ug/L	0.100	BL00	110	25-124	29.7	20	P
Endosulfan I	0.060	0.054	ug/L	0.100	BL00	60.0	25-124	27.8	20	P
Endosulfan II	0.070	0.054	ug/L	0.100	BL00	70.0	25-124	24.2	20	P
Endosulfan sulfate	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	51.8	20	P
Epoxin	0.097	0.054	ug/L	0.100	BL00	90.0	25-124	27.4	20	P
Endrin aldehyde	0.085	0.054	ug/L	0.100	BL00	80.0	25-124	27.5	20	P
gamma-BHC (Lindane)	0.080	0.054	ug/L	0.100	BL00	80.0	25-124	21.2	20	P
Heptachlor	0.097	0.054	ug/L	0.100	BL00	90.0	25-124	18.8	20	
heptachlor epoxide	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	43.4	20	P
Methoxychlor	0.100	0.054	ug/L	0.100	BL00	100	25-124	17.1	20	
Mirex	0.060	0.054	ug/L	0.100	BL00	60.0	25-124	14.2	20	
Sum TCDD	0.100		ug/L	0.218		60.0	18-112			
Sum DCB	0.140		ug/L	0.218		60.0	20-120			
Matrix Spike Dup (B602181-B60218C)										
	Source: B60218A-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	2.38	0.220	ug/L	1.10	BL00	217	40-120	12.7	20	M
PCB as Aroclor 1260	0.898	0.220	ug/L	1.10	BL00	87.0	40-120	12.8	20	
Sum DCB	0.140		ug/L	0.220		60.0	20-100			
Sum TCDF	0.132		ug/L	0.220		60.0	20-100			

Batch B604218 - B604218C

Blank (B604218-BLKT)

Prepared & Analyzed: 04/10/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: 8909220 - 8909250

Blank (8909220-8909250)

Prepared & Analyzed: 04/19/2018

4,4'-DDE	BL00	0.050	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
PCB as Aroclor 1232	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.050	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.050	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.050	ug/L							
beta-BHC	BL00	0.050	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
gamma-BHC (Lindane)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							

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Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
Batch #000220 - 000250										
Metals (800010-8410)										
Prepared & Analyzed: 04/10/2018										
Totaphene	BL00	1.00	ug/L							
Sum PCB	0.210		ug/L	0.200		105	30-105			
Sum PCMX	0.190		ug/L	0.200		70.0	18-112			
Sum TCMX	0.170		ug/L	0.200		70.0	30-100			
Sum PCB	0.210		ug/L	0.200		105	27-131			
OCB (800400-8414)										
Prepared & Analyzed: 04/10/2018										
1,1-DDE	0.070	0.050	ug/L	0.100		70.0	23-134			
1,1-DDE	0.070	0.050	ug/L	0.100		70.0	23-134			
1,1-DDT	0.060	0.050	ug/L	0.100		60.0	23-134			
Acin	0.060	0.050	ug/L	0.100		60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.060	0.050	ug/L	0.100		60.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Decan	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.060	0.050	ug/L	0.100		60.0	23-134			
Exin	0.070	0.050	ug/L	0.100		70.0	23-134			
Exin sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachl	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachl epoxide	0.070	0.050	ug/L	0.100		70.0	23-134			
Methoxychlor	0.060	0.050	ug/L	0.100		60.0	23-134			
Nona	0.070	0.050	ug/L	0.100		70.0	23-134			



Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBD0230 - SW3510C										
LCS (BBD0230-BS1)										
Prepared & Analyzed: 04/10/2018										
Surr: TCMX	0.160		ug/L	0.200		80.0	10-112			
Surr: DCB	0.170		ug/L	0.200		85.0	20-134			
LCS (BBD0230-BS2)										
Prepared & Analyzed: 04/10/2018										
PCB as Aroclor 1016	0.850	0.200	ug/L	1.00		85.0	40-90			
PCB as Aroclor 1260	0.848	0.200	ug/L	1.00		84.0	40-90			
Surr: DCB	0.210		ug/L	0.200		105	30-105			
Surr: TCMX	0.180		ug/L	0.200		90.0	30-105			
LCS (BBD0230-BS3)										
Prepared & Analyzed: 04/10/2018										
Toxaphene	2.85	1.00	ug/L	2.50		81.2	23-134			
LCS (BBD0230-BS4)										
Prepared & Analyzed: 04/10/2018										
Chlordane	1.80	0.200	ug/L	2.00		74.0	23-134			
Matrix Spike (BBD0230-MS1)										
Source: 1806204-01 Prepared & Analyzed: 04/10/2018										
4,4'-DDE	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
4,4'-DDE	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
4,4'-DDE	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Alrin	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
gamma-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Desfer	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan I	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: 18040220 - NY215C										
Main1 Spike (18040220-M1)										
Source: 18040220-S1 Prepared & Analyzed: 04/10/2018										
Endrin	0.080	0.200	ug/L	0.100	BL00	80.0	25-124			
Endrin aldehyde	0.070	0.200	ug/L	0.100	BL00	70.0	25-124			
gamma-BHC (Lindane)	0.070	0.200	ug/L	0.100	BL00	70.0	25-124			
Heptachlor	0.060	0.200	ug/L	0.100	BL00	60.0	25-124			
Heptachlor epoxide	0.070	0.200	ug/L	0.100	BL00	70.0	25-124			
Methoxychlor	0.080	0.200	ug/L	0.100	BL00	80.0	25-124			
Mirex	0.070	0.200	ug/L	0.100	BL00	70.0	25-124			
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Sum PCBs	0.130		ug/L	0.200		60.0	14-113			
Sum PCBs	0.170		ug/L	0.200		80.0	20-120			
<hr/>										
Main1 Spike Dup (18040220-M1D)										
Source: 18040220-S1 Prepared & Analyzed: 04/10/2018										
1,1'-DDE	0.080	0.250	ug/L	0.100	BL00	80.0	25-124	15.4	20	
1,1'-DDE	0.070	0.250	ug/L	0.100	BL00	70.0	25-124	0.00	20	
1,1'-DDE	0.080	0.250	ug/L	0.100	BL00	80.0	25-124	0.00	20	
Aroclor	0.090	0.200	ug/L	0.100	BL00	90.0	25-124	0.00	20	
alpha-BHC	0.070	0.200	ug/L	0.100	BL00	70.0	25-124	0.00	20	
beta-BHC	0.090	0.200	ug/L	0.100	BL00	90.0	25-124	0.00	20	
delta-BHC	0.070	0.200	ug/L	0.100	BL00	70.0	25-124	0.00	20	
Dieldrin	0.070	0.200	ug/L	0.100	BL00	70.0	25-124	0.00	20	
Endosulfan I	0.080	0.200	ug/L	0.100	BL00	80.0	25-124	0.00	20	
Endosulfan II	0.070	0.200	ug/L	0.100	BL00	70.0	25-124	0.00	20	
Endosulfan sulfate	0.070	0.200	ug/L	0.100	BL00	70.0	25-124	13.3	20	
Endrin	0.080	0.200	ug/L	0.100	BL00	80.0	25-124	0.00	20	
Endrin aldehyde	0.080	0.250	ug/L	0.100	BL00	80.0	25-124	15.4	20	
gamma-BHC (Lindane)	0.070	0.250	ug/L	0.100	BL00	70.0	25-124	0.00	20	

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 18040220 - 18040220

Matrix Spike Exp (18040220-18040220)	Source: 18040220-01		Prepared & Analyzed 04/10/2018							
Heptachlor	0.000	0.200	ug/L	0.100	BLGD	80.0	25-134	0.00	20	
Heptachlor epoxide	0.070	0.200	ug/L	0.100	BLGD	70.0	25-134	0.00	20	
Methoxychlor	0.080	0.200	ug/L	0.100	BLGD	80.0	25-134	71.8	20	
lindan	0.070	0.200	ug/L	0.100	BLGD	70.0	25-134	0.00	20	
Sum: TCDF	0.120		ug/L	0.200		80.0	18-112			
Sum: DCB	0.170		ug/L	0.200		85.0	27-131			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organism/Matrix Verified by: CC/ECG - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0203 - SW3510C										
Blank (BBD0203-BLK1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Pentachlorophenol	BLOD	0.500	ug/L							
Sum DCAA (Sum)	1.33		ug/L	1.11		120	60-112			S
LC8 (BBD0203-BL1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.389	0.500	ug/L	0.500		70.0	53-144			
2,4,5-TP (Silvex)	0.550	0.500	ug/L	0.500		90.0	52-129			
2,4-D	0.811	0.500	ug/L	0.500		110	53-126			
Dinoseb	0.333	0.500	ug/L	0.500		60.0	60-137			L
Pentachlorophenol	0.389	0.500	ug/L	0.500		70.0	52-124			
Sum DCAA (Sum)	1.33		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M01)										
					Source: 180470641 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.500	0.500	ug/L	0.500	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.444	0.500	ug/L	0.500	BLOD	80.0	52-129			
2,4-D	0.500	0.500	ug/L	0.500	BLOD	90.0	53-126			
Dinoseb	0.333	0.500	ug/L	0.500	BLOD	60.0	60-137			M
Pentachlorophenol	0.389	0.500	ug/L	0.500	BLOD	70.0	52-124			
Sum DCAA (Sum)	1.50		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M02)										
					Source: 180470641 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.444	0.500	ug/L	0.500	BLOD	80.0	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.500	BLOD	100	52-129			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Organizations Participating by OQREC - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1802021 - 180210C										
Matrix Spike (1802021-MS1)										
Source: 1802021-01 Prepared: 04/02/2018 Analyzed: 04/17/2018										
2,4-D	0.598	0.500	ug/L	0.598	BLDG	100	93-126			
Diuron	0.444	0.500	ug/L	0.598	BLDG	90.0	80-137			
Permethrin/phenol	0.200	0.500	ug/L	0.598	BLDG	90.0	52-124			
Sum OCAs (Sum)	1.22		ug/L	1.17		110	99-112			
Matrix Spike Dup (1802021-MS2)										
Source: 180210A-01 Prepared: 04/02/2018 Analyzed: 04/17/2018										
2,4,5-T	0.444	0.500	ug/L	0.598	BLDG	90.0	52-144	11.8	20	
2,4,5-TP (Diuron)	0.444	0.500	ug/L	0.550	BLDG	90.0	52-120	0.00	20	
2,4-D	0.500	0.500	ug/L	0.598	BLDG	90.0	53-126	0.00	20	
Diuron	0.333	0.500	ug/L	0.598	BLDG	90.0	60-137	0.00	20	M
Permethrin/phenol	0.200	0.500	ug/L	0.598	BLDG	70.0	52-124	0.00	20	
Sum OCAs (Sum)	1.72		ug/L	1.17		110	69-112			B
Matrix Spike Dup (1802021-MS3)										
Source: 180210A-01 Prepared: 04/02/2018 Analyzed: 04/17/2018										
2,4,5-T	0.598	0.500	ug/L	0.598	BLDG	90.0	52-144	0.00	20	
2,4,5-TP (Diuron)	0.500	0.500	ug/L	0.550	BLDG	90.0	52-120	10.5	20	
2,4-D	0.500	0.500	ug/L	0.550	BLDG	90.0	53-126	10.5	20	
Diuron	0.389	0.500	ug/L	0.598	BLDG	70.0	60-137	13.1	20	
Permethrin/phenol	0.444	0.500	ug/L	0.598	BLDG	90.0	52-124	11.8	20	
Sum OCAs (Sum)	1.80		ug/L	1.17		90.0	69-112			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Micro-estimation by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 18040208 - 3/27/17										
Blank (18040208-BLANK)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromochloroethane (DBCE)	BL000	0.010	ug/L							
1,2,3-Trichloropropane	BL000	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL000	0.010	ug/L							
LC8 (18040208-LC8)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromochloroethane (DBCE)	0.176	0.010	ug/L	0.150		111	65-135			
1,2,3-Trichloropropane	0.244	0.010	ug/L	0.250		97.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.324	0.010	ug/L	0.350		130	65-135			
LC8 Dup (18040208-LC8DUP)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromochloroethane (DBCE)	0.318	0.010	ug/L	0.350		126	65-135	12.5	20	
1,2,3-Trichloropropane	0.299	0.010	ug/L	0.250		104	65-135	5.95	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.500	0.010	ug/L	0.350		141	65-135	8.61	20	L
Mainly Spike (18040208-M31)										
Source: 1804174-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromochloroethane (DBCE)	0.227	0.010	ug/L	0.248	BL000	91.7	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL000	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.248	BL000	120	65-135			
Mainly Spike (18040208-M32)										
Source: 1804208-01 Prepared: 04/10/2018 Analyzed: 04/10/2018										
1,2-Dibromochloroethane (DBCE)	0.263	0.010	ug/L	0.248	BL000	108	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL000	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.010	ug/L	0.248	BL000	108	65-135			
Mainly Spike Dup (18040208-M32DUP)										
Source: 1804174-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromochloroethane (DBCE)	0.264	0.010	ug/L	0.248	BL000	108	65-135	10.1	20	
1,2,3-Trichloropropane	0.188	0.010	ug/L	0.248	BL000	83.2	65-135	5.45	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.280	0.010	ug/L	0.248	BL000	158	65-135	27.4	20	M, P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Monitored/Station by: CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	NREC Limits	RPD	RPD Limit	Qual
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Batch: 18042008 - 000001

Matrix Spike (mg) (18042008-000001)	Source: 18042008-01	Prepared: 04/09/2018	Analyzed: 04/10/2018							
1,2-Dichloroethane (DCE)	0.199	0.010	ug/L	0.248	BLDG	79.0	85-135	32.8	20	F
1,2,3-Trichloropropane	0.192	0.010	ug/L	0.248	BLDG	69.3	85-135	19.2	20	F
1,2-Dichloro-3-chloropropane (DCCP)	0.164	0.010	ug/L	0.248	BLDG	66.2	85-135	46.7	20	F

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual	
Batch: 8800218 - No Prep Wet Chem											
Blank (8800218-BLKT)	Prepared & Analyzed: 04/09/2018										
Sulfide	BLD	1.00	mg/L								
LCS (8800218-8801)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.21	1	mg/L	0.00		91.2	80-120				
LCS Dup (8800218-8801)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.14	1	mg/L	0.00		87.8	80-120	2.00%	3%		
Matrix Spike (8800218-MS1)	Source: 1800118-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.32	1.00	mg/L	0.00	BLD	88.8	75-125				
Matrix Spike Dup (8800218-MS1)	Source: 1800118-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.36	1.00	mg/L	0.00	BLD	87.8	75-125	1.38	3%		
Batch: 8800201 - No Prep Wet Chem											
Blank (8800201-BLKT)	Prepared & Analyzed: 04/11/2018										
Cyanide	BLD	0.01	mg/L								
LCS (8800201-8801)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.25	0.01	mg/L	0.250		102	80-120				
LCS Dup (8800201-8801)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.26	0.01	mg/L	0.250		108	80-120	2.00	3%		
Matrix Spike (8800201-MS1)	Source: 1800071-02				Prepared & Analyzed: 04/11/2018						
Cyanide	0.20	0.01	mg/L	0.250	BLD	122	80-120			SI	

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 8806281 - No Prep Wet Chem										
Matrix Spike (8806281-MS)	Source: 180619-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.21	0.01	mg/L	0.250	BLGD	124	80-120			W
Matrix Spike Dup (8806281-MS2)	Source: 180619-02		Prepared & Analyzed: 04/11/2018							
Cyanide	0.24	0.01	mg/L	0.250	BLGD	128	80-120	12.4	20	W
Matrix Spike Dup (8806281-MS3)	Source: 180619-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.15	0.01	mg/L	0.250	BLGD	110	80-120	1.27	10	W
Batch 8806284 - No Prep Wet Chem										
Blank (8806284-BL)			Prepared & Analyzed: 04/11/2018							
Cyanide	BLGD	0.01	mg/L							
LCA (8806284-LC)			Prepared & Analyzed: 04/11/2018							
Cyanide	0.27	0.01	mg/L	0.250		108	80-120			
LCA Dup (8806284-LC2)			Prepared & Analyzed: 04/11/2018							
Cyanide	0.28	0.01	mg/L	0.250		111	80-120	2.24	20	
Matrix Spike (8806284-MS)	Source: 1806284-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.20	0.01	mg/L	0.250	BLGD	120	80-120			W
Matrix Spike Dup (8806284-MS2)	Source: 1806284-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.22	0.01	mg/L	0.250	BLGD	126	80-120	1.56	20	W

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 80007001 Series Methods			Preparation Method EPA200.8 RL.2		
1800116-01	50.0 mL / 50.0 mL	8080100	8800116	8800001	AD00001
1800116-02	50.0 mL / 50.0 mL	8080100	8800116	8800002	AD00001
1800116-03	50.0 mL / 50.0 mL	8080100	8800116	8800003	AD00001
1800116-04	50.0 mL / 50.0 mL	8080100	8800116	8800004	AD00001
1800116-05	50.0 mL / 50.0 mL	8080100	8800116	8800005	AD00001

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 80007001 Series Methods			Preparation Method EPA200.8 RL.4		
1800116-01	50.0 mL / 50.0 mL	8080204	8800116	8800413	AD00076
1800116-02	50.0 mL / 50.0 mL	8080204	8800116	8800413	AD00076
1800116-03	50.0 mL / 50.0 mL	8080204	8800116	8800413	AD00076
1800116-04	50.0 mL / 50.0 mL	8080204	8800116	8800413	AD00076
1800116-05	50.0 mL / 50.0 mL	8080204	8800116	8800413	AD00076

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met (Elementary) Analysis			Preparation Method No Prep Wet Chem		
1800116-01	6.00 mL / 6.00 mL	809010	8800016	8800024	
1800116-02	6.00 mL / 6.00 mL	809010	8800016	8800024	
1800116-03	6.00 mL / 6.00 mL	809010	8800016	8800024	
1800116-04	6.00 mL / 6.00 mL	809010	8800016	8800024	
1800116-05	6.00 mL / 6.00 mL	809010	8800016	8800024	
1800116-01	6.00 mL / 6.00 mL	809010B	8800016	8800024	AD00044
1800116-02	6.00 mL / 6.00 mL	809010B	8800016	8800024	AD00044
1800116-03	6.00 mL / 6.00 mL	809010B	8800016	8800024	AD00044
1800116-04	6.00 mL / 6.00 mL	809010B	8800016	8800024	AD00044



Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800116-01	4.00 mL / 15.00 mL	SW69028	SW00104	SW00100	A00004
Environmental Organic Compounds by GCMS					
			Preparation Method	SW0100	
1800116-01	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-02	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-03	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-04	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-05	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-06	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-07	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-08	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-09	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-10	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-11	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-12	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-13	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-14	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-15	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-16	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-17	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-18	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-19	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-20	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-21	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-22	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-23	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-24	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-25	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-26	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-27	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-28	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-29	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-30	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-31	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-32	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-33	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-34	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-35	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-36	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-37	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-38	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-39	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003
1800116-40	100 mL / 1.00 mL	SW69013	SW00104	SW00114	A00003

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Organic Compounds by GCMS			Preparation Method	SW0100	

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Organic Compounds by GCMS					
			Preparation Method	SW00008	
1800116-01	5.00 mL / 5.00 mL	SW00008	SW00101	SW00101	A000012
1800116-02	5.00 mL / 5.00 mL	SW00008	SW00101	SW00101	A000012
1800116-03	5.00 mL / 5.00 mL	SW00008	SW00101	SW00101	A000012
1800116-04	5.00 mL / 5.00 mL	SW00008	SW00101	SW00101	A000012
1800116-05	5.00 mL / 5.00 mL	SW00008	SW00101	SW00101	A000012
Metals (Total) by EPA 8000/7000 Series Methods					
			Preparation Method	SW10004	
1800116-01	20.0 mL / 20.0 mL	SW10004	SW00001	SW00001	A000001
1800116-02	20.0 mL / 20.0 mL	SW10004	SW00001	SW00001	A000001
1800116-03	20.0 mL / 20.0 mL	SW10004	SW00001	SW00001	A000001
1800116-04	20.0 mL / 20.0 mL	SW10004	SW00001	SW00001	A000001
1800116-05	20.0 mL / 20.0 mL	SW10004	SW00001	SW00001	A000001
Metals Inorganics by GC/ICP					
			Preparation Method	SW00011	
1800116-01	50.0 mL / 2.00 mL	SW00011	SW00001	SW00101	A000001
1800116-02	50.0 mL / 2.00 mL	SW00011	SW00001	SW00101	A000001
1800116-03	50.0 mL / 2.00 mL	SW00011	SW00001	SW00101	A000001
1800116-04	50.0 mL / 2.00 mL	SW00011	SW00001	SW00101	A000001
1800116-05	50.0 mL / 2.00 mL	SW00011	SW00001	SW00101	A000001

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EM610C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM630A in Non-Potable Water	
Antimony	VELAPNC.WDEP
Arsenic	VELAPWDEP
Thallium	VELAPWYDEP
EM747M in Non-Potable Water	
Mercury	VELAPNC.WDEP
EM821F in Non-Potable Water	
1,2-Dichloroethane (DCE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-3-chloropropane (DBCP)	VELAPNC
EM801E in Non-Potable Water	
4,4'-DDD	NC.VELAPWDEP

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Analyte	Certification
1,1-DCE	NC,VELAP,WVDEP
1,1-DOT	NC,VELAP,WVDEP
Atrix	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chrysene	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
EMBTGA in Non-Potable Water	
2,4,5-T	VELAP,NC

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silox)	VELAPNC
2,4-D	VELAPNC
Creosol	VELAPNC
Pentachlorophenol	VELAPNC
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropane	NC,VELAP,WVDEP
1,2-Trichloroethane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloroethane	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MIBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, VCLAP, WYDEP
Benzene	NC, VCLAP, WYDEP
Bromochloromethane	NC, VCLAP, WYDEP
Bromodichloromethane	NC, VCLAP, WYDEP
Bromoform	NC, VCLAP, WYDEP
Bromomethane	NC, VCLAP, WYDEP
Carbon disulfide	NC, VCLAP, WYDEP
Carbon tetrachloride	NC, VCLAP, WYDEP
Chlorobenzene	NC, VCLAP, WYDEP
Chloroethane	NC, VCLAP, WYDEP
Chloroform	NC, VCLAP, WYDEP
Chloromethane	NC, VCLAP, WYDEP
Chloroacetylene	NC, VCLAP, WYDEP
cis-1,2-Dichloroethylene	NC, VCLAP, WYDEP
cis-1,3-Dichloropropene	NC, VCLAP, WYDEP
Dibromochloromethane	NC, VCLAP, WYDEP
Dibromomethane	NC, VCLAP, WYDEP
Dichlorodifluoromethane	NC, VCLAP, WYDEP
Ethyl methylsulfide	NC, VCLAP, WYDEP
Ethylbenzene	NC, VCLAP, WYDEP
Hexachlorobutadiene	NC, VCLAP, WYDEP
Iodomethane	NC, VCLAP, WYDEP
Isobutyl Alcohol	NC, VCLAP, WYDEP
m,p-Xylenes	NC, VCLAP, WYDEP
Methacrylonitrile	NC, VCLAP, WYDEP
Methyl methacrylate	NC, VCLAP, WYDEP
Methylene chloride	NC, VCLAP, WYDEP
o-Xylene	NC, VCLAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Propene	NC.VELAP.WVDEP
Ethene	NC.VELAP.WVDEP
Tetrachloroethylene (PCE)	NC.VELAP.WVDEP
Toluene	NC.VELAP.WVDEP
trans-1,2-Dichloroethylene	NC.VELAP.WVDEP
trans-1,3-Dichloropropene	NC.VELAP.WVDEP
trans-1,4-Dichloro-2-butene	NC.VELAP.WVDEP
Trichloroethylene	NC.VELAP.WVDEP
Trichlorofluoromethane	NC.VELAP.WVDEP
Vinyl acetate	NC.VELAP.WVDEP
Vinyl chloride	NC.VELAP.WVDEP
Xylenes, Total	NC.VELAP.WVDEP
EMBTES in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC.VELAP.WVDEP
1,3,5-Trinitrobenzene	NC.VELAP.WVDEP
1,3-Dinitrobenzene	NC.VELAP.WVDEP
1,4-Naphthoquinone	NC.VELAP.WVDEP
1-Naphthylamine	NC.VELAP.WVDEP
2,3,4,6-Tetrachlorophenol	NC.VELAP.WVDEP
2,4,5-Trichlorophenol	NC.VELAP.WVDEP
2,4,6-Trichlorophenol	NC.VELAP.WVDEP
2,4-Dichlorophenol	NC.VELAP.WVDEP
2,4-Dimethylphenol	NC.VELAP.WVDEP
2,4-Dinitrophenol	NC.VELAP.WVDEP
2,4-Dinitrotoluene	NC.VELAP.WVDEP
2,6-Dichlorophenol	NC.VELAP.WVDEP
2,6-Dinitrotoluene	NC.VELAP.WVDEP
2-Acetylaminofluorene	NC.VELAP.WVDEP

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Certified Analyses included in this Report

Analyte	Certification
1-Chloronaphthalene	NC, VELAP, WYDEP
1-Chlorophenol	NC, VELAP, WYDEP
2-Methylnaphthalene	NC, VELAP, WYDEP
2-Naphthylamine	NC, VELAP, WYDEP
2-Nitroaniline	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
3,3'-Dichlorobenzidine	NC, VELAP, WYDEP
3,3'-Dimethylbenzidine	NC, VELAP, WYDEP
3-Methylcholanthrene	NC, VELAP, WYDEP
3-Nitroaniline	NC, VELAP, WYDEP
4,8-Dinitro-2-naphthol	NC, VELAP, WYDEP
4-Aminodiphenyl ether	NC, VELAP, WYDEP
4-Bromodiphenyl ether	NC, VELAP, WYDEP
4-Chloroaniline	NC, VELAP, WYDEP
4-Chlorodiphenyl ether	NC, VELAP, WYDEP
4-Nitroaniline	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro-o-toluidine	NC, VELAP, WYDEP
7,7'-Dimethylbenz (a) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benz (a) anthracene	NC, VELAP, WYDEP
Benz (a) pyrene	NC, VELAP, WYDEP
Benz (b) fluoranthene	NC, VELAP, WYDEP
Benz (g,h,i) perylene	NC, VELAP, WYDEP
Benz (k) fluoranthene	NC, VELAP, WYDEP

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Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
1,2-Dichloro (1-chloropropane)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chloroacrylate	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Diethyl phthalate	NC, NELAP, WYDEP
Dimethyl maleate	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dioxin	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Isobutyl (1,3-Isod) pyrene	NC, VELAP, WYDEP
Isobutyl	NC, VELAP, WYDEP
Isophrone	NC, VELAP, WYDEP
Isosorbide	NC, VELAP, WYDEP
Ketone	NC, VELAP, WYDEP
m-p-Cresol	NC, VELAP, WYDEP
Methoxyflone	NC, VELAP, WYDEP
Methyl methanesulfonate	NC, VELAP, WYDEP
Methyl parathion	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
Nitrobenzene	NC, VELAP, WYDEP
n-Nitrosodibutylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitrosod-n-butylamine	NC, VELAP, WYDEP
n-Nitrosod-n-propylamine	NC, VELAP, WYDEP
n-Nitrosodiphenylamine	NC, VELAP, WYDEP
n-Nitrosomethylbutylamine	NC, VELAP, WYDEP
n-Nitrosopiperidine	NC, VELAP, WYDEP
n-Nitrosopyrrolidine	NC, VELAP, WYDEP
o,o-Diethyl o-2-phenyl phosphorothioate	NC, VELAP, WYDEP
o,o-Diethyl o-2-phenyl phosphorothioate	NC, VELAP, WYDEP
o-m-p-Cresol	VELAP, WYDEP
o-Cresol	NC, VELAP, WYDEP
o-Toluidine	NC, VELAP, WYDEP
p-(Dimethylamino) azobenzene	NC, VELAP, WYDEP
p-Chloro-m-cresol	NC, VELAP, WYDEP
Pentachlorobenzene	NC, VELAP, WYDEP
Pentachloronitrobenzene (quinazone)	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Certified Analyses included in this Report

Analyte	Certification
Phenacetic	NC VELAP/WVDEP
Phenanthrene	NC VELAP/WVDEP
Phenol	NC VELAP/WVDEP
Fluoride	NC VELAP/WVDEP
p-Phenylenediamine	NC VELAP/WVDEP
Formamide	NC VELAP/WVDEP
Pyrene	NC VELAP/WVDEP
Sulfide	NC VELAP/WVDEP
SM9128 in Non-Potable Water	
Cyanide	VELAP
SM9218 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Exp. Number	Expires
MD208	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	461	12/31/2018
VELAP Certificate #4337	VELAP Virginia Certificate #6001	49(02)	09/14/2018
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Temporarily Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected congeners 1016, 1021, 1022, 1048, 1054, 1060, 1062, and 1068.

CHAIN OF CUSTODY

COMPANY NAME: <u>Zeigler Engineering</u>		INVOICE TO:	PROJECT NAME/QUANT #: <u>WVDEP Compliance Walk</u>
CONTACT: <u>Sarah White</u>		INVOICE CONTACT: <u>Leslie Jones</u>	SITE NAME: <u>Laurel Valley Sealing Leachate (Super)</u>
ADDRESS: <u>1601 Oakley Lane Richmond VA</u>		INVOICE ADDRESS:	PROJECT NUMBER: <u>2170019.04.01</u>
PHONE #: <u>804-358-4370</u>		INVOICE PHONE #:	P.O. #:
FAX #:		EMAIL: <u>judith@zeigler-engineering.com</u>	Pretreatment Program:
Is sample for compliance reporting? YES NO		Is sample from a chlorinated supply? YES NO	
SAMPLER NAME (PRINT): <u>M. Anderson</u>		SAMPLER SIGNATURE: <u>[Signature]</u>	
		Turn Around Time: <u>10</u> Day(s)	

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS	
1) M-18	X					4/18/18	09:30		2	2								
2) M-28	X					4/18/18	07:45		2	2								
3) M-38	X					4/18/18	07:24		2	2								
4) M-4	X					4/18/18	07:33		2	2								
5) M-78	X					4/18/18	09:43		2	2								
6)																		
7)																		
8)																		
9)																		
10)																		

<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>	<p>Signature: <u>[Signature]</u> Date: <u>4/18/18</u> Title: <u>Lab Manager</u></p>
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LAB USE ONLY

COOLER TEMP: 10.0 °C

LaBella Associates, 18D0116

Laurel Valley Compliance Walk

Recd: 04/18/2018 Due: 04/18/2018

801-361-8881

Sample Preservation Log

Order ID: H06114

Date Performed: 01/04/18

Analyst Performing Check: BWS

Sample ID	Vial	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3-NO2		DBO		Pesticide (ppm/ug/L)		SVOC (ug/L/ug/L)		CMT		Pesticide (ppm/ug/L)	
		ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L	ppm	ug/L
01	A																	X		X					
01	E	X																							
01	F			X																					
01	G					X																			
01	G	X																							
01	R			X																					
01	S					X																			
01	AC	X																							
01	AD			X																					
01	AE					X																			
02	A																	X		X					
02	E	X																							
02	F			X																					
02	G					X																			
03	A																	X		X					

NaOH ID: _____ HNO3 ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____ ** pH must be adjusted between 9.3 - 9.7*
 HCL ID: _____ Na2SO3 ID: _____ Buffer Sol'n ID: _____
 1N NaOH ID: _____ 5N NaOH: _____

Sample Preservation Log

Order ID: 1000116

Date Performed: 04/04/10

Analyst Performing Check: RWS

Sample ID	ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3/NO2		DBP		Pesticide (EPA/MSDS)		SVOC (EPA/MSDS)		CrVI		PERFOR (EPA/MSDS)		
		As	Cd	Cu	Pb	Ag	Bi	Co	Cr	Fe	Mn	Ni	Se	Zn	As	Cd	Cu	Pb	Ag	Bi	Co	Cr	Fe	Mn	Ni	Se	Zn
03	E	X																								
03	F			X																						
03	G					X																				
04	A																X		X							
04	E	X																								
04	F			X																						
04	G					X																				
05	A																X		X							
05	E	X																								
05	F			X																						
05	G					X																				

NaOH ID: _____ HNO₃ ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂S₂O₃ ID: _____ * pH must be adjusted between 9.3 - 9.7
 Buffer Sol'n ID: _____
 HCL ID: _____ Na₂SO₃ ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Sample Conditions Checklist

Sample Received at	11:07PM
Was your sample cooled?	Yes
Was cooling time met? If no, what was cooling time?	No
Are the correct pumps used on collection and analysis?	Yes
Do all bottle labels agree with custody paper?	Yes
Is the temperature blank or representative sample within acceptable limits? (allows leaching to PVC or leached on ice and resealed later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GPO, EPA8021, EPA8204, and RSV-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

For trip blank data, see work order #1803114, DWS 4/6/18 1710

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Laboratory Sample ID: 1858114-01 Client Sample ID: Equipment Blank

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Thallium	01	82600A	1.30	J	1.00	2.00	1	ug/L

Laboratory Sample ID: 1858114-02 Client Sample ID: Field Blank

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Toluene	02	SW8260B	0.68	J	0.40	1.00	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-6200 Fax: (804) 298-6207

Certificate of Analysis

Final Report

Laboratory Order ID 1809114

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 4, 2018 16:16
Date Issued: April 18, 2018 16:07
Project Number: 2180019.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/04/2018 16:16. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Scyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Equipment Blank	1805714-01	Ground Water	04/04/2018 10:25	04/04/2018 16:16
Field Blank	1805714-02	Ground Water	04/04/2018 10:15	04/04/2018 16:16
Trip Blank	1805714-03	Ground Water	03/19/2018 13:05	04/04/2018 16:16

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 80001000 Series Methods												
Silver	01	7440-22-4	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		5.0	10.0	1	ug/L	JW
Arsenic	01	7440-38-2	800020A	04/05/2018 12:00	04/11/2018 16:42	BL00		1.0	5.0	1	ug/L	BDV
Barium	01	7440-39-3	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Beryllium	01	7440-41-7	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Cadmium	01	7440-43-9	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Cobalt	01	7440-48-4	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	4.0	1	ug/L	JW
Chromium	01	7440-47-3	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		4.0	10.0	1	ug/L	JW
Copper	01	7440-50-8	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Manganese	01	7439-96-5	8000100	04/10/2018 08:38	04/10/2018 10:21	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Lead	01	7439-92-1	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		0.5	10.0	1	ug/L	JW
Antimony	01	7440-35-0	800020A	04/05/2018 12:00	04/11/2018 16:42	BL00		1.00	5.00	1	ug/L	BDV
Bismuth	01	7782-49-2	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		40.0	50.0	1	ug/L	JW
Tin	01	7440-31-0	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		20.0	20.0	1	ug/L	JW
Thallium	01	7440-28-4	800020A	04/05/2018 12:00	04/11/2018 16:42	1.00	J	1.00	2.00	1	ug/L	BDV
Vanadium	01	7440-03-2	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		2.0	10.0	1	ug/L	JW
Zinc	01	7440-66-5	8000100	04/05/2018 12:00	04/05/2018 14:48	BL00		10.0	10.0	1	ug/L	JW
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	830-20-8	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.50	0.40	1	ug/L	JW
1,1,1-Trifluoroethane	01	71-55-8	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.70	1.00	1	ug/L	JW
1,1,2,2-Tetrafluoroethane	01	78-34-0	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.40	0.40	1	ug/L	JW
1,1,2-Trifluoroethane	01	78-00-9	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.50	1.00	1	ug/L	JW
1,1-Dichloroethane	01	75-34-3	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.40	1.00	1	ug/L	JW
1,1-Dichloroethylene	01	75-35-4	8000000	04/05/2018 12:00	04/05/2018 12:00	BL00		0.30	1.00	1	ug/L	JW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1-Dichloroethane	01	585-89-8	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloroethane	01	96-18-4	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichloroethane	01	120-63-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	01	95-50-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	1.00	1	ug/L	JCW
1,3-Dichloroethane	01	107-68-2	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.90	1.00	1	ug/L	JCW
1,3-Dichloropropane	01	78-67-9	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	01	94-73-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	1.00	1	ug/L	JCW
1,3-Dichloropropane	01	142-28-3	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dioxane	01	101-97-2	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethene	01	75-35-9	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	2.00	1	ug/L	JCW
2-Butanone (MEK)	01	75-97-5	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
2-Pentanone (MPL)	01	531-75-0	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	01	106-10-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.00	5.00	1	ug/L	JCW
Acetone	01	67-64-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	01	75-05-6	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.90	10.0	1	ug/L	JCW
Acrolein	01	107-03-8	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		5.10	10.0	1	ug/L	JCW
Acrylonitrile	01	107-13-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.70	5.00	1	ug/L	JCW
Allyl chloride	01	107-05-1	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.80	1.00	1	ug/L	JCW
Benzene	01	71-43-2	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	1.00	1	ug/L	JCW
Bromochloromethane	01	74-97-5	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	01	75-27-4	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	0.50	1	ug/L	JCW
Bromofluoromethane	01	75-26-3	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.50	1.00	1	ug/L	JCW
Bromomethane	01	74-83-9	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		0.30	1.00	1	ug/L	JCW
Carbon disulfide	01	75-15-0	SW82000	04/05/2018 12:39	04/05/2018 12:39	BL00		1.00	10.0	1	ug/L	JCW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	01	108-90-7	SW826000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	01	75-09-3	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	01	67-68-3	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	01	74-87-3	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
Chloroacene	01	129-99-8	SW826000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethylene	01	106-69-2	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	01	10061-01-5	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Chloroacetylene	01	129-45-1	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	0.50	1	ug/L	JDW
Chloroacetonitrile	01	78-96-3	SW826000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	01	75-71-6	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.00	1.00	1	ug/L	JDW
1,1-Difluoroethane	01	67-03-2	SW826009	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	5.00	1	ug/L	JDW
1,1,1-Trifluoroethane	01	100-41-4	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Fluorochloroethane	01	67-69-3	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.80	0.80	1	ug/L	JDW
Isobutylene	01	74-96-4	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	01	76-83-1	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		18.0	40.0	1	ug/L	JDW
o-Xylene	01	132651-23-1	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	2.00	1	ug/L	JDW
Methacrylonitrile	01	126-98-7	SW826000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.50	1	ug/L	JDW
Methyl methacrylate	01	95-62-8	SW826000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.80	2.00	1	ug/L	JDW
Methylene chloride	01	75-09-2	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		2.00	4.00	1	ug/L	JDW
p-Xylene	01	95-47-6	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
Propionitrile	01	107-12-0	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.50	40.0	1	ug/L	JDW
Styrene	01	100-42-0	SW826008	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-0	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	10021-02-8	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	119-27-9	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	79-01-6	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-69-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	105-65-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	75-01-4	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-1	8260.000	04/05/2018 12:39	04/05/2018 12:39	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-ol (Sum)	01	91.9 %	79-120	04/05/2018 12:39	04/05/2018 12:39							
Sum: 4-bromofluorobenzene (Sum)	01	94.4 %	79-120	04/05/2018 12:39	04/05/2018 12:39							
Sum: Dichlorofluoromethane (Sum)	01	83.8 %	80-119	04/05/2018 12:39	04/05/2018 12:39							
Sum: Toluene-ol (Sum)	01	86.5 %	85-130	04/05/2018 12:39	04/05/2018 12:39							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
1,2,5-Trichlorobenzene	01	95-95-4	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.89	9.32	1	ug/L	SKJ
1,3-Dichlorobenzene	01	95-95-9	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.60	2.66	1	ug/L	SKJ
1,4-Naphthoquinone	01	135-19-4	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
1-Naphthylene	01	124-92-7	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.9	1	ug/L	SKJ
1,2,4,5-Tetrahydroxybenzene	01	94-90-3	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2,4,6-Trichlorophenol	01	95-95-4	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2,4,6-Trichlorophenol	01	95-95-2	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
1,4-Dimethoxybenzene	01	120-83-2	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.28	10.6	1	ug/L	SKJ
2,4-Dimethylphenol	01	105-67-8	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		0.93	9.93	1	ug/L	SKJ
2,4-Dinitrophenol	01	81-26-6	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		0.51	11.2	1	ug/L	SKJ
2,4-Dinitrophenol	01	121-14-0	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2,6-Dinitrophenol	01	87-62-0	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2,6-Dinitrophenol	01	606-20-2	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2-Acetylnaphthalene	01	5346-3	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		3.66	3.66	1	ug/L	SKJ
2-Chloronaphthalene	01	91-58-7	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2-Chlorophenol	01	95-57-0	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
2-Methylnaphthalene	01	91-07-6	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
2-Naphthylene	01	91-59-6	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.6	1	ug/L	SKJ
2-Nitrophenol	01	88-78-4	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKJ
2-Nitrophenol	01	88-75-5	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ
3,3'-Dinitroazobenzidine	01	81-94-1	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		4.26	12.6	1	ug/L	SKJ
3,3'-Dimethylbenzidine	01	116-93-7	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		2.98	2.98	1	ug/L	SKJ
3-Methylcholanthrene	01	54-43-5	8192710	04/09/2018 09:10	04/09/2018 13:34	BL00		1.99	10.6	1	ug/L	SKJ

Certificate of Analysis

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 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	01	99-09-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
1,3-Dioxol-2-methylphenol	01	934-02-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Aminodiphenyl	01	93-87-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Bromophenyl phenyl ether	01	101-85-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Chlorobenzene	01	106-47-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	01	3006-13-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
4-Fluorobenzene	01	100-01-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
4-Nitrophenol	01	100-02-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
5-Nitro-1-naphthol	01	89-85-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	01	87-87-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
Acenaphthene	01	85-13-5	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthylene	01	105-90-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthylene	01	98-89-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	21.3	1	ug/L	SKS
Anthracene	01	130-13-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a) anthracene	01	94-04-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-6	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) fluoranthene	01	200-99-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a,h) perylene	01	181-24-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
Benzo (l) acenaphthene	01	100-81-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) methane	01	111-91-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) ether	01	111-44-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	01	106-80-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	01	117-81-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.06	10.6	1	ug/L	SKS

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Bnly benzyl phthalate	01	65-66-7	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	01	910-10-6	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	01	218-01-8	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Diethyl	01	2003-10-4	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.00	2.00	1	ug/L	SKS
Diethyl (p,p') orthoarsene	01	62-70-3	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	01	131-64-8	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.11	6.33	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Dimethyl	01	60-61-5	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	01	120-11-3	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.11	10.0	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Dibenzyltoluene	01	127-35-4	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.11	10.0	1	ug/L	SKS
Dieldrin	01	208-94-4	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methanesulfonate	01	61-00-0	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	21.3	1	ug/L	SKS
Ethyl acetate	01	74-86-3	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.00	2.00	1	ug/L	SKS
Fluorifer	01	51-60-7	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.00	2.00	1	ug/L	SKS
Fluorenone	01	200-44-0	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	01	64-73-7	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	01	87-68-3	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclohexadiene	01	77-47-4	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobutadiene	01	67-73-1	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	01	1655-71-7	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		2.11	2.00	1	ug/L	SKS
Indene (1,2,3-cd) system	01	183-30-1	8190.710	04/09/2018 09:10	04/09/2018 13:24	BL00		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

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Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
Acetone	01	69-09-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	01	78-06-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Benzofuran	01	120-66-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Biphenyl	01	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00	C	2.13	2.00	1	ug/L	SKJ
o-Cresol	01	95-49-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methylcyclohexane	01	81-80-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	01	69-27-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	01	298-00-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
Naphthalene	01	91-20-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Nonane	01	69-99-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylbenzylamine	01	65-18-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.00	2.00	1	ug/L	SKJ
n-Propylcyclohexylamine	01	62-75-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propyl-n-butylamine	01	924-10-3	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propyl-n-propylamine	01	621-64-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propylphenylamine	01	84-30-0	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylsulfonamide	01	10305-95-8	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
n-Propylamine	01	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n-Propylamine	01	930-00-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	01	126-68-1	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-87-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
o-Cresol	01	1210-77-2	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
o-Cresol	01	95-49-7	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
o-Toluidine	01	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806114-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenelike Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	89-11-7	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcelol	01	84-94-7	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	01	604-03-5	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Pentachloroantibenzene (quintolene)	01	82-09-8	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	01	92-44-2	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	01	89-01-8	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	01	106-06-2	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	01	256-02-2	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	01	100-00-2	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00	C	2.13	10.0	1	ug/L	SKJ
Fluorene	01	2390-48-8	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	10.0	1	ug/L	SKJ
Pyrene	01	179-09-0	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00	C	1.00	10.0	1	ug/L	SKJ
Sulfur	01	74-20-2	8062700	04/06/2018 09:10	04/09/2018 13:34	BL00		2.13	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	01	89-4 %	20-88	04/06/2018 09:10	04/09/2018 13:34							
Surr: 2-Fluorophenyl (Surr)	01	89-4 %	23-87	04/06/2018 09:10	04/09/2018 13:34							
Surr: 2-Fluorophenyl (Surr)	01	89-3 %	10-57	04/06/2018 09:10	04/09/2018 13:34							
Surr: Nitrobenzene-d5 (Surr)	01	82-7 %	10-66.8	04/06/2018 09:10	04/09/2018 13:34							
Surr: Fluorene (Surr)	01	24.3 %	5-33	04/06/2018 09:10	04/09/2018 13:34							
Surr: p-Terphenyl-d14 (Surr)	01	64.0 %	27-133	04/06/2018 09:10	04/09/2018 13:34							

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	01	12874-11-2	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.208	0.213	1	ug/L	HLM
PCB as Aroclor 1221	01	11104-26-2	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.218	0.213	1	ug/L	HLM
PCB as Aroclor 1232	01	11141-16-5	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.218	0.213	1	ug/L	HLM
PCB as Aroclor 1240	01	83485-21-8	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.044	0.213	1	ug/L	HLM
PCB as Aroclor 1248	01	72072-29-0	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.091	0.213	1	ug/L	HLM
PCB as Aroclor 1254	01	11097-69-1	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.037	0.213	1	ug/L	HLM
PCB as Aroclor 1260	01	11098-67-5	EPA8080A	04/06/2018 13:25	04/09/2018 12:25	BL00		0.036	0.213	1	ug/L	HLM
Sum PCB	01	20.0 %	30-105	04/06/2018 13:25	04/09/2018 12:25							
Sum PCMX	01	20.0 %	30-105	04/06/2018 13:25	04/09/2018 12:25							
4,4'-DDE	01	72-04-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDD	01	72-85-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDT	01	50-29-3	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
Aldrin	01	309-00-2	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
alpha-BHC	01	312-34-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
gamma-BHC	01	319-85-7	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.005	0.003	1	ug/L	HLM
Chlordane	01	97-14-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.218	0.213	1	ug/L	HLM
dieldrin	01	312-35-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Dieldrin	01	62-37-1	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan I	01	503-88-4	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan II	01	33213-65-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan sulfate	01	1031-07-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Deslin	01	73-20-8	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
Deslin isobutyle	01	7421-82-4	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM
gamma-BHC (Lindane)	01	58-88-9	EPA8081B	04/06/2018 13:25	04/09/2018 12:25	BL00		0.002	0.003	1	ug/L	HLM

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809114-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Heptachlor	01	76-44-8	8060B18	04092018 13:25	04092018 12:25	BL00		0.009	0.003	1	ug/L	MSM
Heptachlor epoxide	01	1024-57-8	8060B18	04092018 13:25	04092018 12:25	BL00		0.002	0.003	1	ug/L	MSM
Methoxychlor	01	72-43-5	8060B18	04092018 13:25	04092018 12:25	BL00		0.054	0.003	1	ug/L	MSM
Toxaphene	01	8001-35-2	8060B18	04092018 13:25	04092018 12:25	BL00		0.213	1.08	1	ug/L	MSM
Sum: PCMX	01	90.0 %	18-112	04092018 13:25	04092018 12:25							
Sum: DCB	01	55.0 %	27-131	04092018 13:25	04092018 12:25							

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<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	01	95-79-5	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	01	95-79-1	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	01	94-75-7	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Simazine	01	88-86-7	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	01	87-86-0	SW8151A	04092018 13:01	04/17/2018 13:01	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	01	99.0 %	60-112	0409/2018 13:01	04/17/2018 13:01							

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by GC/MS												
1,2-Dibromoethane (DEB)	01	106-93-4	846011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	01	96-18-4	846011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	846011	04/09/2018 13:11	04/09/2018 18:40	BLDG		0.000	0.010	1	ug/L	MSM

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	61-12-6	SW9012B	04/11/2018 13:30	04/11/2018 15:30	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	01	68496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

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Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		0.0	10.0	1	ug/L	JPV
Antimony	02	7440-36-2	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.0	5.0	1	ug/L	BCV
Barium	02	7440-39-9	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	10.0	1	ug/L	JPV
Beryllium	02	7440-41-7	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Cadmium	02	7440-43-9	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Cobalt	02	7440-48-4	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	4.0	1	ug/L	JPV
Chromium	02	7440-47-3	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		4.0	10.0	1	ug/L	JPV
Copper	02	7440-50-8	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		2.0	10.0	1	ug/L	JPV
Mercury	02	7439-97-8	8070/7000	04/10/2018 08:33	04/10/2018 16:24	BL00		0.20	0.20	1	ug/L	MMH
Nickel	02	7440-02-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		2.0	10.0	1	ug/L	JPV
Lead	02	7439-97-1	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		0.0	10.0	1	ug/L	JPV
Arsenic	02	7440-38-0	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.00	5.00	1	ug/L	BCV
Strontium	02	7752-49-2	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		20.0	20.0	1	ug/L	JPV
Thallium	02	7440-36-4	8000/7000A	04/09/2018 12:00	04/11/2018 16:48	BL00		1.00	2.00	1	ug/L	BCV
Vanadium	02	7440-63-2	8000/7000	04/09/2018 12:00	04/09/2018 14:50	BL00		2.0	10.0	1	ug/L	JPV
Zinc	02	7440-66-0	8000/7000	04/09/2018 12:00	04/09/2018 14:51	BL00		10.0	10.0	1	ug/L	JPV

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Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	02	79-00-5	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	02	78-24-2	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	02	78-36-4	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.30	1.00	1	ug/L	JCW
1,1-Dichloropropene	02	563-08-8	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropene	02	96-18-4	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	02	120-82-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	02	96-62-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	02	107-06-2	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	02	78-27-5	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	1.00	1	ug/L	JCW
1,3-Dichloropropane	02	541-73-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	02	142-28-9	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	02	106-46-7	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	02	694-20-7	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.30	2.00	1	ug/L	JCW
2-Butanone (MIBK)	02	70-93-3	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
2-Pentanone (MIBK)	02	98-119-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.80	3.00	1	ug/L	JCW
Acetone	02	67-64-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	02	75-05-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		5.20	10.0	1	ug/L	JCW
Acrylonitrile	02	107-02-8	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		5.30	10.0	1	ug/L	JCW
Acrylonitrile	02	107-13-1	SW82000	04/05/2018 13:08	04/05/2018 13:08	BL00		1.70	5.00	1	ug/L	JCW
Allyl chloride	02	107-25-1	SW82008	04/05/2018 13:08	04/05/2018 13:08	BL00		0.40	1.00	1	ug/L	JCW

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Volatile Organic Compounds by GCMS												
Benzene	02	71-43-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Bromochloromethane	02	74-97-5	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	02	75-27-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	0.50	1	ug/L	JCW
Bromofluoromethane	02	75-20-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	1.00	1	ug/L	JCW
Bromomethane	02	74-99-9	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Carbon disulfide	02	75-18-0	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	02	56-23-5	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chloroacetylene	02	100-00-7	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chloroethane	02	78-00-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	02	67-68-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	0.80	1	ug/L	JCW
Chloromethane	02	74-87-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	1.00	1	ug/L	JCW
Chloroprene	02	106-95-6	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	5.00	1	ug/L	JCW
cis-1,2-Dichloroethene	02	100-00-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	02	10041-01-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	1.00	1	ug/L	JCW
Dibromochloromethane	02	13448-1	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	0.50	1	ug/L	JCW
Dibromomethane	02	74-96-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.30	1.00	1	ug/L	JCW
Dibromofluoromethane	02	75-71-0	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.00	1.00	1	ug/L	JCW
Ethyl methoxybenzene	02	87-63-2	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	3.00	1	ug/L	JCW
Ethylbenzene	02	100-41-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.20	1.00	1	ug/L	JCW
Heptachlorobenzene	02	87-68-3	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.80	0.80	1	ug/L	JCW
Iodomethane	02	74-88-4	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	02	78-83-1	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		18.0	60.0	1	ug/L	JCW
m,p-Xylenes	02	179601-23	SW82000	04/05/2018 13:00	04/05/2018 13:00	BL00		0.50	2.00	1	ug/L	JCW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	95-63-8	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	2.00	1	ug/L	JCW
Methylene chloride	02	75-09-2	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	02	95-47-8	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
Propylene	02	107-12-9	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		7.00	40.0	1	ug/L	JCW
Styrene	02	100-42-8	SW8260B	04/05/2018 13:07	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	02	127-18-4	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.40	1.00	1	ug/L	JCW
Toluene	02	105-98-2	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00	J	0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloroethylene	02	188-90-9	SW8260B	04/05/2018 13:07	04/05/2018 13:05	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	02	10061-07-8	SW8260B	04/05/2018 13:07	04/05/2018 13:05	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	02	110-67-8	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethylene	02	79-01-6	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Trichlorofluoromethane	02	75-69-4	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	02	106-68-4	SW8260B	04/05/2018 13:07	04/05/2018 13:05	BL00		2.50	10.0	1	ug/L	JCW
Vinyl chloride	02	75-01-4	SW8260B	04/05/2018 13:07	04/05/2018 13:05	BL00		0.50	0.50	1	ug/L	JCW
Xylenes, Total	02	1330-20-7	SW8260B	04/05/2018 13:05	04/05/2018 13:05	BL00		1.00	3.00	1	ug/L	JCW
Sum 1,2-Dichloroethane-04 (Sum)	02	63.0 %	75-129	04/05/2018 13:05	04/05/2018 13:05							
Sum 4-Bromofluorobenzene (Sum)	02	64.2 %	75-129	04/05/2018 13:05	04/05/2018 13:05							
Sum Dibromofluoromethane (Sum)	02	62.9 %	80-119	04/05/2018 13:05	04/05/2018 13:05							
Sum Toluene-08 (Sum)	02	66.2 %	85-130	04/05/2018 13:05	04/05/2018 13:05							

Certificate of Analysis

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 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	69-64-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	02	69-56-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	9.32	1	ug/L	SKS
1,3-Dichlorobenzene	02	69-60-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.69	2.66	1	ug/L	SKS
1,4-Naphthoquinone	02	130-15-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
1-Naphthylene	02	124-32-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.9	1	ug/L	SKS
1,2,4,5-Tetrachlorobenzene	02	69-64-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	02	69-50-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	02	69-50-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
1,4-Dimethylbenzene	01	120-82-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.28	10.8	1	ug/L	SKS
1,4-Dimethylphenol	02	108-87-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.83	8.83	1	ug/L	SKS
2,4-Dichlorophenol	02	61-76-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.51	11.2	1	ug/L	SKS
2,4-Dinitrophenol	02	121-14-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	02	67-65-0	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrophenol	02	606-20-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2-Acetylnaphthalene	02	75-66-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		3.66	3.66	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2-Chlorophenol	02	95-57-0	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
2-Methylnaphthalene	02	91-07-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
2-Naphthylene	02	91-59-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
2-Nitrophenol	02	69-70-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
3-Nitrophenol	02	69-70-5	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS
3,7-Dinitrobenzidine	02	61-64-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		4.28	10.8	1	ug/L	SKS
3,7-Dimethylbenzidine	02	118-83-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.88	2.88	1	ug/L	SKS
3-Methylcholanthrene	02	54-45-5	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.98	10.8	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	02	99-06-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	02	934-02-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
4-Aminodiphenyl	02	93-87-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-85-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
4-Chlorobenzene	02	106-47-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	02	3006-17-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
4-Fluorobenzene	02	100-01-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
4-Nitrophenol	02	100-02-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
5-Nitrobenzotriazole	02	99-99-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	02	81-87-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
Acenaphthene	02	81-32-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthylene	02	105-90-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Acenaphthone	02	95-85-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	21.3	1	ug/L	SKS
Anthracene	02	130-13-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a) anthracene	02	56-56-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		0.53	5.3	1	ug/L	SKS
Benzo (a) fluoranthene	02	200-99-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Benzo (a,h) perylene	02	181-24-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-38-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
Benzo (ghi) pentalene	02	100-81-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) naphthalene	02	111-81-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Chloromethyl) ether	02	111-44-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	02	106-86-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	02	917-81-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.06	10.6	1	ug/L	SKS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	82	85-68-7	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Chlorobenzene	82	912-15-8	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.66	2.66	1	ug/L	SKS
Chrysene	82	218-01-8	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Diethyl	82	2003-38-4	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.66	2.66	1	ug/L	SKS
Diethyl (p,p') dithionene	82	92-70-2	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Dibenzofuran	82	133-84-8	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	8.32	1	ug/L	SKS
Diethyl phthalate	82	84-66-2	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Dimethyl	82	65-81-5	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.66	2.66	1	ug/L	SKS
Diethyl phthalate	82	121-71-2	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Di-n-butyl phthalate	82	88-14-2	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
Di-n-octyl phthalate	82	117-84-0	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Dibenzyltolene	82	127-35-4	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.8	1	ug/L	SKS
Diethyl	82	205-34-4	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.66	2.66	1	ug/L	SKS
Ethyl methanesulfonate	82	62-50-0	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	21.3	1	ug/L	SKS
Ethyl acetate	82	78-10-5	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.66	2.66	1	ug/L	SKS
Fluoranthene	82	52-69-7	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.66	2.66	1	ug/L	SKS
Fluorene	82	206-44-0	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Fluorene	82	84-73-7	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Hexachlorobenzene	82	118-74-1	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		0.89	0.89	1	ug/L	SKS
Hexachlorocyclopentadiene	82	87-68-3	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Hexachlorocyclohexadiene	82	77-47-4	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Hexachloroethane	82	67-73-1	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS
Hexachloropropene	82	1888-71-7	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.66	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	82	183-38-1	8192.710	04/09/2018 09:10	04/09/2018 14:08	BL00		1.88	10.8	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806114-62**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	02	60-32-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Acetophenone	02	78-66-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	02	135-66-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
Acrylonitrile	02	143-00-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00	C	2.13	2.00	1	ug/L	SKJ
any-Cresol	02	9009-04-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methacrylonitrile	02	91-08-9	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	02	66-27-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	02	298-00-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKJ
Naphthalene	02	81-20-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
Nitrobenzene	02	98-96-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	02	95-16-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosodimethylamine	02	62-75-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
n-Nitrosodiethylamine	02	924-16-3	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	02	927-64-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
n-Nitrosodibutylamine	02	84-26-6	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodihydroxylamine	02	10005-95-8	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKJ
n-Nitrosopentane	02	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
n-Nitrosopyridine	02	930-05-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	02	126-68-1	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	02	297-67-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
any-Cresol	02	1315-77-2	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKJ
o-Cresol	02	95-49-7	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKJ
o-Toluidine	02	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1809114-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] benzene	02	89-11-7	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	2.00	1	ug/L	SKB
p-Chloro-m-xcel	02	69-50-7	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Pentachlorobenzene	02	608-03-1	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKB
Pentachloroantibenzene (quintozene)	02	82-69-8	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	1.00	1	ug/L	SKB
Phenanthrene	02	92-44-2	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluorene	02	89-01-9	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluoranthene	02	106-05-1	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		1.00	10.0	1	ug/L	SKB
Fluoranthene	02	206-02-2	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKB
p-Fluorophenanthrene	02	108-80-2	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00	C	2.13	10.0	1	ug/L	SKB
Fluoranthene	02	206-02-2	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	10.0	1	ug/L	SKB
Pyrene	02	129-00-0	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00	C	1.00	10.0	1	ug/L	SKB
Selene	02	74-56-7	8162700	04/06/2018 09:10	04/09/2018 14:08	BL00		2.13	2.00	1	ug/L	SKB
Surr: 2,4,6-Trinitrophenol (Surr)	02	71-8 %	20-88	04/06/2018 09:10	04/09/2018 14:08							
Surr: 2-Fluorobiphenyl (Surr)	02	80.4 %	23-67	04/06/2018 09:10	04/09/2018 14:08							
Surr: 2-Fluorophenol (Surr)	02	44.4 %	10-57	04/06/2018 09:10	04/09/2018 14:08							
Surr: Nitrobenzene-d5 (Surr)	02	72.8 %	10-66.8	04/06/2018 09:10	04/09/2018 14:08							
Surr: Phenanthrene (Surr)	02	77.8 %	5-33	04/06/2018 09:10	04/09/2018 14:08							
Surr: p-Terphenyl-d14 (Surr)	02	73.1 %	27-133	04/06/2018 09:10	04/09/2018 14:08							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	02	12074-11-2	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.226	0.213	1	ug/L	HLM
PCB as Aroclor 1221	02	11104-26-2	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.218	0.213	1	ug/L	HLM
PCB as Aroclor 1232	02	11147-16-5	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.216	0.213	1	ug/L	HLM
PCB as Aroclor 1240	02	83485-21-8	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.244	0.213	1	ug/L	HLM
PCB as Aroclor 1248	02	72672-29-6	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.261	0.213	1	ug/L	HLM
PCB as Aroclor 1254	02	11097-66-1	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.037	0.213	1	ug/L	HLM
PCB as Aroclor 1260	02	11096-82-0	EPA8080A	04/06/2018 13:29	04/06/2018 12:42	BL00		0.036	0.213	1	ug/L	HLM
Sum PCB	02	402 %	30-105	04/06/2018 13:29	04/06/2018 12:42							
Sum PCBs	02	92.0 %	30-105	04/06/2018 13:29	04/06/2018 12:42							
4,4'-DDE	02	72-04-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDD	02	72-85-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
4,4'-DDT	02	50-29-3	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
Aldrin	02	309-00-2	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
alpha-BHC	02	519-54-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
gamma-BHC	02	272-85-7	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.005	0.003	1	ug/L	HLM
Chlordane	02	87-14-6	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.218	0.213	1	ug/L	HLM
dieldrin	02	519-55-9	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Dieldrin	02	60-27-1	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan I	02	503-88-4	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan II	02	33213-65-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Endosulfan sulfate	02	1021-37-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Deslin	02	73-20-8	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
Deslin allylic	02	7421-82-4	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM
gamma-BHC (Lindane)	02	58-88-9	EPA8081B	04/06/2018 13:29	04/06/2018 12:42	BL00		0.002	0.003	1	ug/L	HLM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1809114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.009	0.003	1	ug/L	MSM
Heptachlor epoxide	02	1024-57-8	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.009	0.003	1	ug/L	MSM
Methoxychlor	02	73-43-9	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.064	0.003	1	ug/L	MSM
Toxaphene	02	8001-35-2	SW8261B	0409/2018 13:29	0409/2018 12:42	BL00		0.213	0.06	1	ug/L	MSM
Sum: PCMX	02	70.0 %	18-112	0409/2018 13:29	0409/2018 12:42							
Sum: DGB	02	55.0 %	27-131	0409/2018 13:29	0409/2018 12:42							

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Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	95-79-5	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-73-1	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	02	94-75-7	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Simazine	02	88-85-7	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	02	87-86-0	SM8151A	04092018 13:31	04/17/2018 13:19	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	02	80.0 %	80-112	0409/2018 13:31	04/17/2018 13:19							

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Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	02	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:00	BL00		0.000	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:00	BL00		0.000	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:00	BL00		0.000	0.010	1	ug/L	MSM

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Client Sample ID: Field Blank

Laboratory Sample ID: 1806114-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chloride	02	6712-5	SW9012B	04/11/2018 13:33	04/11/2018 13:33	BL00	C	0.01	0.01	1	mg/L	BP
Sulfate	02	15498-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.50	1.00	1	mg/L	DLF

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Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1806114-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	636-20-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	02	71-68-8	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	04	79-00-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	79-34-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	06	79-39-4	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropane	07	563-09-8	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	08	96-18-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	09	120-82-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	00	95-50-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,2-Dichloroethane	00	107-06-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	02	75-27-5	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	00	541-73-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	00	142-29-9	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	00	106-46-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	00	694-70-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MIBK)	00	79-59-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	00	98-17-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		3.00	3.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	00	108-10-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		6.00	6.00	1	ug/L	JDW
Acetone	00	67-64-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	00	75-05-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.00	10.0	1	ug/L	JDW
Acrylonitrile	00	107-02-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		5.50	10.0	1	ug/L	JDW
Acrylonitrile	00	107-13-1	SW826000	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	00	107-26-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1806114-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	01	71-43-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	02	74-97-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	03	75-27-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.50	1	ug/L	JDW
Bromofluoromethane	04	75-25-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Bromomethane	05	74-83-9	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	06	75-78-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	07	56-23-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroacetylene	08	100-00-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	09	78-09-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	10	67-68-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	11	74-87-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	12	105-65-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.60	5.00	1	ug/L	JDW
cis-1,2-Dichloroethene	13	100-00-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	14	10001-41-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	15	13448-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	16	74-96-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Dibromotrifluoromethane	17	75-71-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methacrylate	18	97-63-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.00	1	ug/L	JDW
Ethylbenzene	19	100-41-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Heptachlorobenzene	20	67-68-3	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.80	0.80	1	ug/L	JDW
Iodomethane	21	74-88-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.20	10.0	1	ug/L	JDW
Isobutyl Alcohol	22	78-83-1	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		18.0	60.0	1	ug/L	JDW
m,p-Xylene	23	179601-23	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Client Sample ID: **Trip Blank**

Laboratory Sample ID: **1806114-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	01	95-62-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	01	75-29-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	01	95-47-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
Propene	01	107-12-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		7.00	40.0	1	ug/L	JDW
Styrene	01	100-42-0	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Tetrafluoroethylene (TFE)	01	127-18-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
Ethene	01	100-85-2	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	100-85-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloropropane	01	10061-02-8	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	110-07-6	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	01	75-21-5	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	1.00	1	ug/L	JDW
Trichlorofluoromethane	01	75-29-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	100-00-4	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	7541-14	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	01	1330-20-7	SW826008	04/05/2018 12:12	04/05/2018 12:13	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-ol (Sum)	01	94.0 %	75-120	04/05/2018 12:12	04/05/2018 12:13							
Sum: 4-Dibromofluorobenzene (Sum)	01	90.0 %	75-120	04/05/2018 12:12	04/05/2018 12:13							
Sum: Dibromofluoromethane (Sum)	01	83.0 %	85-119	04/05/2018 12:12	04/05/2018 12:13							
Sum: Toluene-ol (Sum)	01	96.0 %	85-130	04/05/2018 12:12	04/05/2018 12:13							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1806114-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromoethane (EDB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:18	BLDG		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:18	BLDG		0.005	0.010	1	ug/L	MSM
1,2-Dichloro-3-nitropropane (DNCN)	03	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:18	BLDG		0.005	0.010	1	ug/L	MSM



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Method (Title) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0155 - EPA200.2/R2.8

Blank (BBD0155-BLK1)

Prepared: 04/05/2018 Analyzed: 04/09/2018

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BBD0155-091)

Prepared: 04/05/2018 Analyzed: 04/09/2018

Barium	530	10.0	ug/L	500	105	80-120
Beryllium	545	4.0	ug/L	500	109	80-120
Cadmium	538	4.0	ug/L	500	107	80-120
Chromium	541	10.0	ug/L	500	108	80-120
Cobalt	550	4.0	ug/L	500	110	80-120
Copper	529	10.0	ug/L	500	106	80-120
Lead	530	10.0	ug/L	500	106	80-120
Nickel	545.1	10.0	ug/L	500	110	80-120
Selenium	541	50.0	ug/L	500	108	80-120
Silver	535	10.0	ug/L	500	107	80-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 18041201 - 1804201202										
LC8 (18041201-02)										
					Prepared: 04/09/2018 Analyzed: 04/09/2018					
Ti	80.8	20.0	ug/L	100		80.8	80-120			
Vanadium	503	10.0	ug/L	500		107	80-120			
Zn	544	10.0	ug/L	500		108	80-120			
LC8 Dup (18041201-02)										
					Prepared: 04/09/2018 Analyzed: 04/09/2018					
Boron	513	10.0	ug/L	500		102	80-120	3.36	20	
Beryllium	517	4.0	ug/L	500		103	80-120	5.32	20	
Calcium	515	4.0	ug/L	500		102	80-120	4.85	20	
Chromium	514	10.0	ug/L	500		103	80-120	5.16	20	
Cobalt	520	4.0	ug/L	500		104	80-120	5.71	20	
Copper	500	10.0	ug/L	500		100	80-120	5.50	20	
Lead	508	10.0	ug/L	500		100	80-120	5.48	20	
Nickel	517.9	10.0	ug/L	500		104	80-120	5.84	20	
Selenium	500	50.0	ug/L	500		100	80-120	7.79	20	
Ether	101	10.0	ug/L	100		101	80-120	3.55	20	E
Ti	80.8	20.0	ug/L	100		80.8	80-120	0.296	20	
Vanadium	503	10.0	ug/L	500		101	80-120	5.19	20	
Zn	544	10.0	ug/L	500		103	80-120	5.75	20	
Matrix Spike (18041201-02)										
					Source: 18041201-02 Prepared: 04/09/2018 Analyzed: 04/09/2018					
Boron	357	10.0	ug/L	500	34.0	107	75-125			
Beryllium	504	4.0	ug/L	500	BL00	111	75-125			
Calcium	526	4.0	ug/L	500	BL00	106	75-125			
Chromium	528	10.0	ug/L	500	11.0	108	75-125			
Cobalt	529	4.0	ug/L	500	BL00	108	75-125			
Copper	541	10.0	ug/L	500	BL00	108	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Matrix (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1804151 - EPA200.2.M.U.

Matrix Spike (1804151-M51)		Source: 1804151-01			Prepared: 04/09/2018 Analyzed: 04/09/2018					
Lead	514	10.0	ug/L	500	BLOD	100	75-125			
Nickel	522.8	10.0	ug/L	500	B.L	104	75-125			
Selenium	487	50.0	ug/L	500	BLOD	98.4	75-125			
Silver	109	10.0	ug/L	100	BLOD	109	75-125			E
Tin	47.9	20.0	ug/L	100	BLOD	47.9	75-125			M
Vanadium	537	10.0	ug/L	500	BLOD	107	75-125			
Zinc	558	10.0	ug/L	500	37.8	104	75-125			

Matrix Spike (1804151-M52)		Source: 1804151-01			Prepared: 04/06/2018 Analyzed: 04/09/2018					
Barium	551	10.0	ug/L	500	16.9	107	75-125			
Beryllium	559	4.0	ug/L	500	BLOD	112	75-125			
Cadmium	525	4.0	ug/L	500	BLOD	105	75-125			
Chromium	638	10.0	ug/L	500	BLOD	108	75-125			
Cobalt	530	4.0	ug/L	500	BLOD	106	75-125			
Copper	581	10.0	ug/L	500	12.7	114	75-125			
Lead	504	10.0	ug/L	500	BLOD	101	75-125			
Nickel	527.1	10.0	ug/L	500	BLOD	105	75-125			
Selenium	480	50.0	ug/L	500	BLOD	98.8	75-125			
Silver	111	10.0	ug/L	100	BLOD	111	75-125			E
Tin	32.7	20.0	ug/L	100	BLOD	32.7	75-125			M
Vanadium	541	10.0	ug/L	500	BLOD	108	75-125			
Zinc	543	10.0	ug/L	500	27.1	103	75-125			

Matrix Spike Dup (1804151-M53)		Source: 1804151-01			Prepared: 04/06/2018 Analyzed: 04/09/2018					
Barium	573	10.0	ug/L	500	34.3	108	75-125	0.818	20	
Beryllium	558	4.0	ug/L	500	BLOD	111	75-125	0.387	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%RDL	RFD	RFD Limit	Qual
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Batch: 8004101 - 8242062823

Matrix Spike Spig (8004101-824206)	Source: 1804120-08			Prepared: 04/05/2018	Analyzed: 04/09/2018					
Cadmium	526	4.0	ug/L	500	BLOD	106	75-125	5.140	20	
Chromium	940	10.0	ug/L	500	71.8	108	75-125	5.471	20	
Cobalt	534	4.0	ug/L	500	BLOD	107	75-125	3.818	20	
Copper	949	10.0	ug/L	500	BLOD	109	75-125	6.499	20	
Lead	510	10.0	ug/L	500	BLOD	103	75-125	0.319	20	
Nickel	556.2	10.0	ug/L	500	9.1	105	75-125	0.635	20	
Selenium	498	50.0	ug/L	500	BLOD	99.5	75-125	0.105	20	
Silver	110	10.0	ug/L	100	BLOD	110	75-125	0.999	20	E
Ti	52.8	20.0	ug/L	100	BLOD	52.0	75-125	8.18	20	M
Vanadium	538	10.0	ug/L	500	BLOD	108	75-125	0.293	20	
Zinc	553	10.0	ug/L	500	37.8	105	75-125	0.653	20	

Matrix Spike Spig (8004101-824206)	Source: 1804104-01			Prepared: 04/05/2018	Analyzed: 04/09/2018					
Boron	170	10.0	ug/L	500	18.9	111	75-125	3.27	20	
Beryllium	881	4.0	ug/L	500	BLOD	116	75-125	3.59	20	
Barium	648	4.0	ug/L	500	BLOD	109	75-125	3.63	20	
Chromium	500	10.0	ug/L	500	BLOD	112	75-125	4.01	20	
Cobalt	502	4.0	ug/L	500	BLOD	113	75-125	5.50	20	
Copper	607	10.0	ug/L	500	13.7	119	75-125	4.25	20	
Lead	534	10.0	ug/L	500	BLOD	107	75-125	5.88	20	
Nickel	559.8	10.0	ug/L	500	BLOD	112	75-125	5.88	20	
Selenium	526	50.0	ug/L	500	BLOD	106	75-125	6.26	20	
Silver	115	10.0	ug/L	100	BLOD	115	75-125	3.40	20	E
Ti	36.0	20.0	ug/L	100	BLOD	36.0	75-125	5.76	20	M
Vanadium	584	10.0	ug/L	500	BLOD	113	75-125	4.23	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch 8800150 - EPA200.8 BSL										
Matrix Spike Dup (8800150-MSD) Source: 1800150-01 Prepared: 04/05/2018 Analyzed: 04/09/2018										
Zinc	877	10.0	ug/L	800	27.1	110	75-125	6.07	20	
Batch 8800150 - EPA200.8 BSL										
Blank (8800150-BLANK) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	BLOO	5.00	ug/L							
Arsenic	BLOO	5.0	ug/L							
Thallium	BLOO	2.00	ug/L							
LCS (8800150-BSD1) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	52.5	5.00	ug/L	50.0		105	80-120			
Arsenic	49	5.0	ug/L	50.0		98.3	80-120			
Thallium	43.8	2.00	ug/L	50.0		87.7	80-120			
LCS Dup (8800150-BSD1) Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	63.7	5.00	ug/L	50.0		107	80-120	2.41	20	
Arsenic	50	5.0	ug/L	50.0		99.8	80-120	1.48	20	
Thallium	42.7	2.00	ug/L	50.0		85.5	80-120	2.55	20	
Matrix Spike (8800150-MSD1) Source: 1800150-05 Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	54.0	5.00	ug/L	50.0	BLOO	108	75-125			
Arsenic	51	5.0	ug/L	50.0	BLOO	103	75-125			
Thallium	38.3	2.00	ug/L	50.0	BLOO	76.6	75-125			
Matrix Spike Dup (8800150-MSD2) Source: 1800150-08 Prepared: 04/05/2018 Analyzed: 04/17/2018										
Antimony	52.9	5.00	ug/L	50.0	BLOO	106	75-125	1.89	20	
Arsenic	50	5.0	ug/L	50.0	BLOO	101	75-125	1.89	20	
Thallium	42.0	2.00	ug/L	50.0	BLOO	84.0	75-125	3.48	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Method (Title) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: 8800222 - RW1425A										
Blank (8800222-BL1)										
Mercury	BLOD	0.20	ug/L							
LCS (8800222-BL1)										
Mercury	2.25	0.20	ug/L	2.50		91.3	90-120			
LCS Dup (8800222-BL2)										
Mercury	2.27	0.20	ug/L	2.50		90.6	80-120	0.737	20	
Matrix Spike (8800222-MS1)										
Mercury	2.40	0.20	ug/L	2.50	BLOD	96.1	80-120			
Matrix Spike (8800222-MS2)										
Mercury	1.13	0.20	ug/L	2.50	BLOD	45.3	80-120			M
Matrix Spike Dup (8800222-MS3)										
Mercury	2.29	0.20	ug/L	2.50	BLOD	91.7	80-120	4.68	20	
Matrix Spike Dup (8800222-MS4)										
Mercury	1.19	0.20	ug/L	2.50	BLOD	47.5	80-120	4.72	20	M

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NDEC	NDEC Limit	RPD	RPD Limit	Qual
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Batch: 8900181 - 8900188

Blank (8900181-8900188)

Prepared & Analyzed: 04/09/2018

1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L
1,1,1-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,1-Dichloroethene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloroethene	BL00	1.00	ug/L
1,2-Dichloroethyne	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,3-Dichlorobenzene	BL00	1.00	ug/L
1,3-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1,4-Dichloropropane	BL00	2.00	ug/L
2-Butanone (MEK)	BL00	5.00	ug/L
2-Pentanone (MIBK)	BL00	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acetonitrile	BL00	10.0	ug/L
Acrylonitrile	BL00	5.00	ug/L
Allyl chloride	BL00	1.00	ug/L
Benzene	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NDEC	NDEC Limit	RPD	RPD Limit	Qual
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Batch: 8900181 - 8900188

Blank (8900181-890181)	Filtered & Analyzed 04/09/2018									
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromoflouride	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromochloride	BL00	5.00	ug/L							
o-1,2-Dichloromethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromodichloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethyl methyl ether	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heachtrichlorofluorene	BL00	0.50	ug/L							
Isocyanide	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methyl ether	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch #000181 - 000008

Metals (000181-0001) Prepared & Analyzed: 04/05/2018

n-Heptane	81.00	1.00	ug/L							
Propene	81.00	40.0	ug/L							
Hexane	81.00	1.00	ug/L							
Tetrahydrofuran (THF)	81.00	1.00	ug/L							
Styrene	81.00	1.00	ug/L							
nona-1,2-Dichloroethane	81.00	1.00	ug/L							
nona-1,3-Dichloropropane	81.00	1.00	ug/L							
nona-1,4-Dichloro-2-butene	81.00	1.00	ug/L							
Toluene	81.00	1.00	ug/L							
Trichloroethylene	81.00	1.00	ug/L							
Trichlorofluoromethane	81.00	1.00	ug/L							
Vinyl acetate	81.00	10.0	ug/L							
Vinyl chloride	81.00	0.50	ug/L							
Hydrazine, Total	81.00	3.00	ug/L							
Sum: 1,3-Dichloropropane (Sum)	41.5		ug/L	50.0		97.1	75-130			
Sum: 4-Bromochlorobutane (Sum)	41.4		ug/L	50.0		92.8	75-130			
Sum: Dichlorodifluoromethane (Sum)	41.8		ug/L	50.0		91.8	80-119			
Sum: Hexane-01 (Sum)	40.3		ug/L	50.0		90.7	80-130			

LCB (000181-0001) Prepared & Analyzed: 04/05/2018

1,1,1-Trichloroethane	50.8	0.4	ug/L	50.0		107	90-130			
1,1,1-Trichloroethane	47.5	1	ug/L	50.0		99.0	85-130			
1,1,2-Trichloroethane	44.7	0.4	ug/L	50.0		99.4	80-130			
1,1,2-Trichloroethane	48.8	1	ug/L	50.0		97.8	75-125			
1,1-Dichloroethane	47.3	1	ug/L	50.0		94.8	70-135			
1,1-Dichloroethylene	44.7	1	ug/L	50.0		93.4	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900208										
LOQ (8900181-8900208)										
Prepared & Analyzed: 04/09/2018										
1,1-Dichloroethane	45.2	1	ug/L	50.0	50.4	90.4	75-125			
1,2-Dichloroethane	43.3	1	ug/L	50.0	50.4	90.8	75-125			
1,1,1-Trichloroethane	46.7	1	ug/L	50.0	50.3	90.6	80-125			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0	49	98	75-125			
1,3-Dichlorobenzene	45.4	1	ug/L	50.0	50.8	91.6	75-125			
1,2-Dibromoethane	47.5	1	ug/L	50.0	55.1	95.1	75-125			
1,3-Dibromobenzene	51.5	1	ug/L	50.0	100	100	75-125			
1,2-Dibromopropane	46.7	1	ug/L	50.0	50.3	90.6	75-125			
1,4-Dibromobenzene	46.4	1	ug/L	50.0	56.6	96.6	75-125			
1,2-Dibromopropane	49.3	2	ug/L	50.0	56.4	96.4	75-125			
2-Butanone (MIBK)	55.5	5	ug/L	50.0	73.6	73.6	35-150			
3-Pentanone (MIBK)	34.7	5	ug/L	50.0	77.5	77.5	35-120			
4-Methyl-2-pentanone (MIBK)	26.8	5	ug/L	50.0	79.2	79.2	30-125			
Acetone	55.3	10	ug/L	50.0	75.7	75.7	40-140			
Acrylonitrile	100	5	ug/L	200	64.2	64.2	75-125			L
Benzene	47.1	1	ug/L	50.0	64.2	64.2	30-120			
Bromoethane	51.6	1	ug/L	50.0	100	100	30-120			
Bromochloromethane	51.6	0.5	ug/L	50.0	104	104	75-120			
Bromobenzene	51.1	1	ug/L	50.0	100	100	35-120			
Bromomethane	42.2	1	ug/L	50.0	64.4	64.4	30-140			
Carbon disulfide	45.4	10	ug/L	50.0	65.9	65.9	30-150			
Carbon tetrachloride	52.1	1	ug/L	50.0	104	104	35-140			
Chlorobenzene	46.6	1	ug/L	50.0	67.0	67.0	30-120			
Chloroethane	41.5	1	ug/L	50.0	63.0	63.0	30-120			
Chloroform	43.7	0.5	ug/L	50.0	67.4	67.4	30-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802188

LO2 (1802181-1818) Prepared & Analyzed 04/09/2018										
Chloromethane	41.4	1	ug/L	50.0		52.8	40-120			
cis-1,2-Dichloroethylene	43.2	1	ug/L	50.0		56.5	75-120			
cis-1,3-Dichloropropene	45.4	1	ug/L	50.0		50.8	75-120			
Dibromochloromethane	61.6	0.5	ug/L	50.0		100	60-120			
Dibromomethane	45.8	1	ug/L	50.0		57.5	75-120			
Dibromofluoromethane	11.3	1	ug/L	50.0		52.7	20-150			
Ethylbenzene	55.3	1	ug/L	50.0		101	75-120			
Heptachlorobutadiene	54.0	0.8	ug/L	50.0		108	50-140			
m,p-Xylene	100	2	ug/L	100		100	75-120			
Isobutylene oxide	42.4	4	ug/L	50.0		54.8	50-140			
n-Butane	48.8	1	ug/L	50.0		55.5	50-120			
Styrene	51.2	1	ug/L	50.0		100	50-120			
Tetrachloroethylene (PCE)	75.8	1	ug/L	50.0		142	40-100			
Toluene	55.0	1	ug/L	50.0		100	75-120			
trans-1,2-Dichloroethylene	44.7	1	ug/L	50.0		55.5	50-140			
trans-1,3-Dichloropropene	40.2	1	ug/L	50.0		58.5	50-140			
Trichloroethylene	44.5	1	ug/L	50.0		57.1	75-120			
Trichlorofluoromethane	42.7	1	ug/L	50.0		55.5	50-140			
Vinyl chloride	45.9	0.5	ug/L	50.0		51.8	50-140			
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Sum 1,2-Dichloroethane-d0 (Sum)	48.1		ug/L	50.0		58.1	75-120			
Sum 4-Bromobromobenzene (Sum)	48.7		ug/L	50.0		57.4	75-120			
Sum Dibromofluoromethane (Sum)	48.2		ug/L	50.0		55.3	50-110			
Sum Toluene-d0 (Sum)	48.8		ug/L	50.0		55.1	50-120			

Matrix Spike (1802181-1818) Source: 180218-01 Prepared & Analyzed: 04/09/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatle Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 8000181 - 8000208

Matrix Spike (8000181-8000181)	Source: 1804176-01	Prepared & Analyzed 04/09/2018								
1,1,1,2-Tetrafluoroethane	48.8	0.4	ug/L	50.0	51.00	97.8	90-100			
1,1,1-Trifluoroethane	48.1	1	ug/L	50.0	51.00	98.2	90-100			
1,1,2,2-Tetrafluoroethane	44.2	0.4	ug/L	50.0	51.00	98.4	90-100			
1,1,2-Trifluoroethane	49.9	1	ug/L	50.0	51.00	99.9	75-125			
1,1-Difluoroethane	54.5	1	ug/L	50.0	58.0	91.7	75-125			
1,1-Dichloroethene	45.8	1	ug/L	50.0	51.00	91.7	75-125			
1,1-Dichloroethane	46.2	1	ug/L	50.0	51.00	92.0	75-125			
1,2,2-Trichloroethane	42.8	1	ug/L	50.0	51.00	95.0	75-125			
1,2,4-Trichlorobenzene	45.1	1	ug/L	50.0	51.00	98.2	90-100			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	52.0	98.2	75-125			
1,2-Difluorobenzene	51.8	1	ug/L	50.0	51.00	98.7	95-100			
1,2-Dichloroethane	44.4	1	ug/L	50.0	51.00	87.7	75-125			
1,3-Dichlorobenzene	51.2	1	ug/L	50.0	51.00	100	75-125			
1,3-Dichloroethane	45.7	1	ug/L	50.0	51.00	91.0	75-125			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0	48.0	96.0	75-125			
2,2-Dichloropropane	44.7	2	ug/L	50.0	51.00	99.0	75-125			
2-Butanone (MEK)	31.0	5	ug/L	50.0	51.00	61.0	30-100			
2-Pentanone (MIBK)	34.8	5	ug/L	50.0	51.00	71.6	95-100			
4-Methyl-2-pentanone (MIBK)	38.3	5	ug/L	50.0	51.00	78.6	90-100			
Acetone	32.0	10	ug/L	50.0	51.00	60.8	40-140			
Acrylonitrile	189	3	ug/L	250	51.00	67.6	75-100			W
Benzene	49.7	1	ug/L	50.0	1.87	3.8	90-120			
Bromochloromethane	45.1	1	ug/L	50.0	51.00	98.2	90-100			
Bromodichloromethane	49.2	0.5	ug/L	50.0	51.00	98.4	75-125			
Bromofluoromethane	49.1	1	ug/L	50.0	51.00	98.2	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
Matrix Spike (8000181-8000181)										
Source: 180419-01 Project & Analyzed: 04/03/2018										
Bromomethane	29.8	1	ug/L	50.0	8.00	79.2	30-145			
Carbon disulfide	42.4	10	ug/L	50.0	8.00	84.8	30-160			
Carbon tetrachloride	53.7	1	ug/L	80.0	8.00	107	85-140			
Chloroacetylene	49.9	1	ug/L	50.0	2.89	64.0	60-120			
Chloroethane	47.4	1	ug/L	50.0	2.22	83.3	80-138			
Chloroform	42.1	0.8	ug/L	50.0	8.00	84.2	80-138			
Chloromethane	40.0	1	ug/L	50.0	0.88	78.8	60-120			
cis-1,2-Dichloroethane	52.2	1	ug/L	50.0	9.75	64.8	70-125			
cis-1,3-Dichloropropene	42.1	1	ug/L	50.0	8.00	64.2	70-130			
Dibromochloromethane	49.9	0.2	ug/L	50.0	8.00	99.8	80-138			
Dibromomethane	45.0	1	ug/L	50.0	8.00	81.8	75-125			
Dichlorodifluoromethane	42.9	1	ug/L	50.0	8.00	88.7	30-155			
Ethylbenzene	48.9	1	ug/L	50.0	8.00	97.8	70-128			
Heptachlorobenzene	54.2	0.8	ug/L	50.0	8.00	72	30-160			
Hexafluorobenzene	55.8	2	ug/L	700	8.00	95.8	70-130			
Methylene chloride	41.3	4	ug/L	50.0	8.00	81.2	30-140			
n-Heptane	47.4	1	ug/L	50.0	8.00	64.0	60-120			
Hexane	47.7	1	ug/L	50.0	8.00	95.4	65-130			
Tetrachloroethylene (PCE)	70.4	1	ug/L	50.0	8.00	740	45-150			
Toluene	48.4	1	ug/L	50.0	8.00	96.8	75-130			
trans-1,2-Dichloroethylene	44.3	1	ug/L	50.0	0.80	87.7	80-140			
trans-1,3-Dichloropropene	48.0	1	ug/L	50.0	8.00	91.8	55-140			
Trichloroethylene	47.8	1	ug/L	50.0	1.22	80.3	70-128			
Trichlorofluoromethane	44.7	1	ug/L	50.0	8.00	89.3	80-140			
Vinyl chloride	46.2	0.8	ug/L	50.0	2.81	88.7	30-145			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802182

Matrix Spike (1802181 MS1)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
Sum: 1,2-Dichloroethane-d4 (Sum)	45.8		ug/L	50.0		91.6	75-120			
Sum: 4-Bromodichloroethane (Sum)	47.8		ug/L	50.0		95.6	75-120			
Sum: Chloromethoxyethane (Sum)	47.8		ug/L	50.0		95.6	80-118			
Sum: Toluene-d8 (Sum)	49.8		ug/L	50.0		97.7	90-120			

Matrix Spike One (1802181 MS2)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
1,1,1,2-Tetrafluoroethane	49.7	5.4	ug/L	50.0	BLOD	99.5	60-130	8.69	30	
1,1,1-Trichloroethane	39.6	1	ug/L	50.0	BLOD	79.2	65-130	19.4	30	
1,1,1,2-Tetrafluoroethane	41.8	6.4	ug/L	50.0	BLOD	83.6	65-130	9.70	30	
1,1,2-Trichloroethane	41.3	1	ug/L	50.0	BLOD	82.6	75-125	12.6	30	
1,1-Dichloroethane	44.2	1	ug/L	50.0	6.62	71.1	70-135	20.9	30	
1,1-Dichloroethylen	37.6	1	ug/L	50.0	BLOD	75.1	70-130	18.9	30	
1,1-Dichloropropane	39.0	1	ug/L	50.0	BLOD	78.1	75-135	16.9	30	
1,2,3-Trichloropropane	39.3	1	ug/L	50.0	BLOD	78.6	75-125	7.83	30	
1,2,4-Trichlorobenzene	48.1	1	ug/L	50.0	BLOD	96.2	65-135	4.33	30	
1,2-Dichlorobenzene	45.8	1	ug/L	50.0	0.29	91.1	70-120	8.46	30	
1,2-Dichloroethane	31.4	1	ug/L	50.0	BLOD	61.9	70-130	21.1	30	M
1,2-Dichloropropane	38.9	1	ug/L	50.0	BLOD	78.7	75-125	13.2	30	
1,3-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	90.2	75-125	16.8	30	
1,3-Dichloropropane	38.1	1	ug/L	50.0	BLOD	76.1	75-125	15.1	30	
1,4-Dichlorobenzene	48.1	1	ug/L	50.0	4.85	96.4	75-125	11.4	30	
1,2-Dichloropropane	37.7	2	ug/L	50.0	BLOD	75.4	75-138	16.8	30	
3-Pentanone (MIX)	39.6	5	ug/L	50.0	BLOD	89.0	30-100	7.71	30	
2-Hexanone (MIX)	34.8	5	ug/L	50.0	BLOD	69.6	35-130	5.06	30	
4-Methyl-2-pentanone (MIX)	35.0	5	ug/L	50.0	BLOD	70.0	65-138	11.8	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1804181 - 1804208										
Matrix Spike Spig (1804181-1804208)										
Source: 180418-01 Preserved & Analyzed: 04/09/2018										
Acetone	36.8	10	ug/L	50.0	54.00	73.6	40-140	71.3	30	
Acrylonitrile	121	5	ug/L	200	51.00	60.4	75-130	71.4	30	W
Benzene	42.8	1	ug/L	50.0	1.87	61.4	90-130	53.4	30	
Bromochloromethane	49.9	1	ug/L	50.0	51.00	61.0	65-130	69.2	30	
Bromodichloromethane	41.5	0.5	ug/L	50.0	51.00	62.1	75-130	68.2	30	
Bromotoluene	66.7	1	ug/L	50.0	51.00	63.4	75-130	62.0	30	
Bromonethane	33.3	1	ug/L	50.0	51.00	66.6	30-140	77.2	30	
Carbon disulfide	34.4	10	ug/L	50.0	51.00	64.8	35-160	69.9	30	
Carbon tetrachloride	44.7	1	ug/L	50.0	51.00	66.6	65-140	69.3	30	
Chlorobenzene	45.8	1	ug/L	50.0	1.89	66.4	60-120	62.8	30	
Dibromethane	54.7	1	ug/L	50.0	3.23	64.6	65-130	70.5	30	
Chloroform	34.8	0.5	ug/L	50.0	51.00	66.6	65-130	69.0	30	
Dichloromethane	31.9	1	ug/L	50.0	0.89	62.6	40-120	22.8	30	
o-1,2-Dichlorobenzene	44.0	1	ug/L	50.0	5.75	65.0	75-120	77.1	30	W
o-1,2-Dichlorobenzene	35.3	1	ug/L	50.0	51.00	70.7	75-130	71.5	30	
Dibromochloromethane	42.8	0.5	ug/L	50.0	51.00	67.1	60-130	53.5	30	
Dibromomethane	56.6	1	ug/L	50.0	51.00	77.2	75-130	77.4	30	
Dichlorodifluoromethane	31.3	1	ug/L	50.0	51.00	64.8	30-130	65.1	30	
Ethylbenzene	43.8	1	ug/L	50.0	51.00	67.3	75-120	71.5	30	
Heptachlorobutadiene	61.1	0.8	ug/L	50.0	51.00	120	60-140	82.8	30	
m,p-Xylenes	67.1	2	ug/L	100	51.00	67.1	75-130	94.3	30	
Methylene chloride	39.3	4	ug/L	50.0	51.00	66.3	55-140	65.4	30	
p-Xylene	42.8	1	ug/L	50.0	51.00	65.2	60-120	60.7	30	
Toluene	43.3	1	ug/L	50.0	51.00	66.5	65-130	66.1	30	
Tetrachloroethylene (PCE)	56.3	1	ug/L	50.0	51.00	120	40-130	67.9	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 1804181 - 1804182

Matrix Spike Spig (1804181-1804182)		Source: 180418-01		Filtered & Analyzed 04/09/2018						
Toluene	43.8	1	ug/L	50.0	BLOD	87.6	75-125	15.8	30	
trans-1,2-Dichloroethene	27.1	1	ug/L	50.0	0.40	73.8	80-140	17.7	30	
trans-1,3-Dichloropropene	39.9	1	ug/L	50.0	BLOD	79.0	55-140	15.2	30	
Trichloroethylene	49.2	1	ug/L	50.0	1.33	93.9	70-125	9.39	30	
Trichlorofluoromethane	35.2	1	ug/L	50.0	BLOD	72.3	60-145	21.0	30	
Vinyl chloride	35.7	0.5	ug/L	50.0	2.90	67.6	50-145	23.0	30	
Sum: 1,2-Dichloroethane-d4 (Sum)	43.2		ug/L	50.0		86.5	70-120			
Sum: 4-Bromofluorobenzene (Sum)	46.8		ug/L	50.0		93.6	75-120			
Sum: Dibromofluoromethane (Sum)	42.9		ug/L	50.0		85.9	80-119			
Sum: Toluene-d8 (Sum)	47.3		ug/L	50.0		94.5	85-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8800114 - 8800150

Blank (8800114-8800150)	Filtered, 04/09/2018 Analyzed, 04/18/2018									
1,2,4,5-Tetraclorobenzene	BL00	10.0	ug/L							
1,3,5-Trichlorobenzene	BL00	5.00	ug/L							
1,3-Dichlorobenzene	BL00	2.50	ug/L							
1,4-Hydroquinone	BL00	10.0	ug/L							
Mesitylene	BL00	10.0	ug/L							
1,2,4,6-Tetrachlorophenoxy	BL00	10.0	ug/L							
2,4,6-Trichlorophenoxy	BL00	10.0	ug/L							
2,4,6-Trichlorophenoxy	BL00	10.0	ug/L							
2,4-Dichlorophenoxy	BL00	10.0	ug/L							
1,4-Dichlorophenoxy	BL00	5.00	ug/L							
1,4-Dichlorophenoxy	BL00	10.0	ug/L							
1,4-Dichlorophenoxy	BL00	10.0	ug/L							
2,6-Dichlorophenoxy	BL00	10.0	ug/L							
2,6-Dichlorophenoxy	BL00	10.0	ug/L							
2-Acetylaminofluorene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenoxy	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichlorodioxine	BL00	10.0	ug/L							
2,7-Dimethylbenzidine	BL00	2.50	ug/L							
2-Methylimidazole	BL00	10.0	ug/L							
2-Nitroimidazole	BL00	20.0	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 890214 - 890215C										
Blank (890214-890215) Prepared: 04/09/2018 Analyzed: 04/18/2018										
1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	10.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nitro-2-naphthol	BL00	10.0	ug/L							
1,2-Dibromobenzene (o)	BL00	10.0	ug/L							
Acenaphthene	BL00	10.0	ug/L							
Acenaphthylene	BL00	10.0	ug/L							
Acenaphthylene	BL00	10.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzo (a) anthracene	BL00	0.05	ug/L							
Benzo (a) pyrene	BL00	0.10	ug/L							
Benzo (b) fluoranthene	BL00	10.0	ug/L							
Benzo (k) fluorene	BL00	10.0	ug/L							
Benzo (l) fluoranthene	BL00	10.0	ug/L							
Benzyl alcohol	BL00	10.0	ug/L							
Is (2-Chloromethyl) methylene	BL00	10.0	ug/L							
Is (2-Chloromethyl) ether	BL00	10.0	ug/L							
1,2-Dichloro (1-Phenylpropane)	BL00	10.0	ug/L							
Is (2-Ethylhexyl) phthalate	BL00	2.50	ug/L							
Butyl benzyl phthalate	BL00	10.0	ug/L							
Chlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 890014 - 890016										
Blank (890014-890016)										
Prepared: 04/09/2018 Analyzed: 04/18/2018										
Chrysen	BL00	10.0	ug/L							
Dibenz	BL00	2.50	ug/L							
Dibenz (a,h) anthracene	BL00	10.0	ug/L							
Fluorene	BL00	5.00	ug/L							
Decyl phthalate	BL00	10.0	ug/L							
Dodecane	BL00	2.50	ug/L							
Dodecyl phthalate	BL00	10.0	ug/L							
Dinonyl phthalate	BL00	10.0	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Diphenylene	BL00	10.0	ug/L							
Dibutyl	BL00	2.50	ug/L							
Ethyl methoxyacetate	BL00	20.0	ug/L							
Ethyl parathion	BL00	2.50	ug/L							
Forfalar	BL00	2.50	ug/L							
Fluoranthene	BL00	10.0	ug/L							
Fluorene	BL00	10.0	ug/L							
Hexachlorobenzene	BL00	5.00	ug/L							
Hexachlorobutadiene	BL00	10.0	ug/L							
Hexachlorocyclopentadiene	BL00	10.0	ug/L							
Hexachloroethane	BL00	10.0	ug/L							
Hexachloropropene	BL00	2.50	ug/L							
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L							
Isobut	BL00	10.0	ug/L							
Isophenol	BL00	10.0	ug/L							
Isoprene	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8800114 - 8800115										
Blank (8800114-880115) Prepared: 04/09/2018 Analyzed: 04/18/2018										
Acetone	BL00	2.50	ug/L							
m,p-Cresols	BL00	10.0	ug/L							
Methoxybenzene	BL00	10.0	ug/L							
Methyl methanesulfonate	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitroindole	BL00	2.50	ug/L							
n-Nitrodimethylaniline	BL00	10.0	ug/L							
n-Nitrodi-n-butylamine	BL00	10.0	ug/L							
n-Nitrodi-n-octylamine	BL00	10.0	ug/L							
n-Nitroethylaniline	BL00	10.0	ug/L							
n-Nitrosodimethylaniline	BL00	2.50	ug/L							
n-Nitrosopyrrolone	BL00	10.0	ug/L							
n-Nitrosotoluene	BL00	2.50	ug/L							
o,o-Dithyl phosphorothioate	BL00	10.0	ug/L							
o,o-Dithyl n-P-cyanetyl phosphorothioate	BL00	10.0	ug/L							
o-m,p-Cresols	BL00	10.0	ug/L							
n-Cresol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetone	BL00	2.50	ug/L							
p-Chloro-m-cresol	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachloronitrobenzene (quinoline)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: B000114 - B00150										
Blank (B000114-B00150)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phonol	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	67.0		ug/L	100		67.0	20-66			
Sum: 2-Fluorobiphenyl (Sum)	38.8		ug/L	50.0		77.1	23-87			
Sum: 2-Fluorophenol (Sum)	48.9		ug/L	100		48.9	10-52			
Sum: Nitrobenzene-d5 (Sum)	35.9		ug/L	50.0		71.8	10-98.5			
Sum: Phenol-d5 (Sum)	30.2		ug/L	100		30.2	5-33			
Sum: p-Tephenyl-d14 (Sum)	30.1		ug/L	50.0		60.2	27-133			
LCS (B000154-B01)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	35.8	10.0	ug/L	50.0		73.7	21.8-66.7			L
1,2-Dichlorobenzene	35.6	10.0	ug/L	50.0		71.2	22-60			L
1,3-Dichlorobenzene	33.2	10.0	ug/L	50.0		66.5	22-60			L
1,4-Dichlorobenzene	34.7	10.0	ug/L	50.0		69.5	13-68			L
1-Chloronaphthalene	39.9	10.0	ug/L	50.0		79.8	9-299			
2,4,6-Trichlorophenol	36.8	10.0	ug/L	50.0		73.6	50-119			
2,4-Dichlorophenol	41.1	10.0	ug/L	50.0		82.2	50-108			
2,4-Dimethylphenol	38.8	0.50	ug/L	50.0		77.6	30-119			
2,4-Dinitrophenol	48.3	50.0	ug/L	50.0		96.6	15-140			
2,4-Dinitrotoluene	45.7	10.0	ug/L	50.0		91.4	21-89			

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC Limit	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900114 - 8900115										
LC8 (8900114-891)										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	36.3	10.0	ug/L	50.0		75.0	15-140			
1-Chloroacetylene	36.4	10.0	ug/L	50.0		75.0	40-120			
1-Chloroethane	36.1	10.0	ug/L	50.0		75.1	15-74			L
1-Propanol	39.2	10.0	ug/L	50.0		75.4	40-110			
1,1-Dichloroethylene	40.0	10.0	ug/L	50.0		50.0	20-110			
1,1-Dimethyl-2-methoxypropane	36.8	50.0	ug/L	50.0		77.8	40-130			
4-Bromophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.4	15-110			
4-Chlorophenyl phenyl ether	42.8	10.0	ug/L	50.0		87.7	15-110			
4-Nitrophenol	21.6	50.0	ug/L	50.0		43.0	0-100			
Acenaphthene	40.3	10.0	ug/L	50.0		80.6	27.7-85.3			
Acenaphthylene	40.5	10.0	ug/L	50.0		80.9	50-100			
Acenaphthylene	35.0	20.0	ug/L	50.0		69.9	0-200			
alpha-Terpinol	43.0	2.50	ug/L	50.0		86.0	0-200			
Anthracene	43.0	10.0	ug/L	50.0		87.2	50-110			
Benzo (a) anthracene	41.0	0.05	ug/L	50.0		82.0	50-110			
Benzo (a) pyrene	39.2	0.10	ug/L	50.0		78.4	50-110			
Benzo (b) fluoranthene	42.0	10.0	ug/L	50.0		84.0	40-120			
Benzo (g,h,i) perylene	36.0	10.0	ug/L	50.0		72.0	40-120			
Benzo (k) fluoranthene	38.4	10.0	ug/L	50.0		76.8	40-120			
Is (2-Chloromethyl) methane	38.3	10.0	ug/L	50.0		76.6	40-120			
Is (2-Chloromethyl) ether	38.0	10.0	ug/L	50.0		76.0	40-120			
1,7-Dioxin (1-chloropropane)	35.2	10.0	ug/L	50.0		70.4	40-120			
Is (2-Ethylhexyl) phthalate	34.0	2.50	ug/L	50.0		67.9	40-120			
Butyl benzyl phthalate	37.1	10.0	ug/L	50.0		74.2	40-110			
Carbazole	44.4	2.50	ug/L	50.0		88.8	0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 890014H - 890015C										
LOQ (890014-891)										
Prepared: 04/02/2018 Analyzed: 04/09/2018										
Chrysene	29.3	10.0	ug/L	50.0		79.6	55-110			
Dibenz (a,h) anthracene	24.0	10.0	ug/L	50.0		79.1	40-120			
Dibutyl phthalate	41.1	10.0	ug/L	50.0		82.2	40-120			
Dioctyl phthalate	24.9	10.0	ug/L	50.0		77.0	20-120			
Dioctyl phthalate	44.5	10.0	ug/L	50.0		89.0	55-110			
Di-n-octyl phthalate	44.4	10.0	ug/L	50.0		88.7	20-120			
Fluoranthene	45.6	10.0	ug/L	50.0		91.2	50-110			
Fluorene	42.2	10.0	ug/L	50.0		84.4	50-110			
Hexachlorobenzene	49.8	5.00	ug/L	50.0		80.7	25-120			
Hexachlorocyclopentadiene	43.7	10.0	ug/L	50.0		87.4	20-120			
Hexachlorocyclopentadiene	24.3	10.0	ug/L	50.0		48.6	20-120			
Hexachlorothere	34.9	10.0	ug/L	50.0		69.8	20-120			
Indeno (1,2,3-cd) pyrene	30.1	10.0	ug/L	50.0		79.3	40-120			
Isophrene	33.0	10.0	ug/L	50.0		87.0	10-110			
Naphthalene	39.3	10.0	ug/L	50.0		78.6	40-100			
Nitrobenzene	33.4	10.0	ug/L	50.0		78.7	40-100			
m-Nitrodimethylaniline	27.1	10.0	ug/L	50.0		54.2	20-110			
m-Nitrodi-n-propylaniline	24.0	10.0	ug/L	50.0		72.1	10-87			
m-Nitrodiphenylamine	34.4	10.0	ug/L	50.0		68.8	10-87			
p-Chloro-m-cresol	41.5	10.0	ug/L	50.0		83.0	10-91			
Perfluorobenzene	40.4	20.0	ug/L	50.0		80.8	20-100			
Phenanthrene	39.0	10.0	ug/L	50.0		78.1	50-110			
Phenol	19.9	10.0	ug/L	50.0		39.8	0-100			
Pyrene	24.0	10.0	ug/L	50.0		48.0	27-110			
Pyrene	24.0	10.0	ug/L	50.0		48.0	0-200			

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B0001H - B0005C										
LO9 (B0001H-B0005C)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Sum 2,4,6-Trichlorophenol (Sum)	81.8		ug/L	100		81.8	20-80			
Sum 2-Fluorophenyl (Sum)	41.8		ug/L	50.0		41.7	20-67			
Sum 3-Fluorophenyl (Sum)	58.8		ug/L	100		58.8	10-50			S
Sum Nitrobenzene-D7 (Sum)	41.2		ug/L	20.0		42.9	10-60.0			
Sum Phenol-D5 (Sum)	37.7		ug/L	100		37.7	5-33			S
Sum p-Nitrophenyl-D4 (Sum)	54.3		ug/L	50.0		54.3	27-133			
Matrix Spike (B0001H-B0005C)										
Source: 1800104-01 Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	43.8	10.0	ug/L	54.3	BLOD	78.7	21.8-66.7			M
1,2-Dichloroethane	41.7	10.0	ug/L	54.3	BLOD	76.7	22-60			M
1,3-Dichloroethane	56.0	10.0	ug/L	54.3	BLOD	71.6	22-60			M
1,1-Dibromoethane	43.8	10.0	ug/L	54.3	2.40	76.3	22-60			M
1-Chloronaphthalene	45.8	10.0	ug/L	54.3	BLOD	83.8	0-200			
2,4,6-Trichlorophenol	44.1	10.0	ug/L	54.3	BLOD	81.2	50-115			
1,4-Dichlorophenol	47.7	10.0	ug/L	54.3	BLOD	87.8	50-105			
2,4-Dimethylphenol	41.6	0.54	ug/L	54.3	BLOD	76.5	30-110			
1,4-Dinitrophenol	60.5	54.3	ug/L	54.3	BLOD	120	15-140			
1,4-Dinitrotoluene	52.8	10.0	ug/L	54.3	BLOD	90.8	15-111			
1,5-Dinitrotoluene	45.8	10.0	ug/L	54.3	BLOD	84.3	15-140			
2-Chloronaphthalene	44.0	10.0	ug/L	54.3	BLOD	81.8	40-100			
3-Chlorophenol	43.1	10.0	ug/L	54.3	BLOD	79.4	10-64			M
2-Nitrophenol	45.7	10.0	ug/L	54.3	BLOD	84.0	40-115			
1,3-Dichlorobenzene	56.8	10.0	ug/L	54.3	BLOD	54.8	20-110			
4,6-Dinitro-2-methylphenol	51.1	54.3	ug/L	54.3	BLOD	94.0	40-130			
4-Bromophenyl phenyl ether	62.9	10.0	ug/L	54.3	BLOD	97.2	15-110			

Certificate of Analysis

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Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 180414H - SW215C

Matrix Spike (180414H-MS1)	Source: 180414H-S1		Prepared: 04/02/2018 Analyzed: 04/09/2018							
4-Chlorophenyl phenyl ether	51.5	10.8	ug/L	54.3	BL00	94.8	15-110			
4-Nitrophenol	23.8	54.3	ug/L	54.3	BL00	44.0	0-120			
Acenaphthene	47.8	10.8	ug/L	54.3	BL00	88.2	24-90			
Acenaphthylene	48.0	10.8	ug/L	54.3	BL00	88.9	60-100			
Acenaphthene	38.2	21.7	ug/L	54.3	BL00	72.2	0-200			
alpha-Terpinene	51.8	8.17	ug/L	54.3	BL00	93.8	0-200			
Anthracene	49.8	10.8	ug/L	54.3	BL00	91.8	30-110			
Benz[e]anthracene	48.5	0.08	ug/L	54.3	BL00	89.2	55-110			
Benz[e]pyrene	48.4	8.17	ug/L	54.3	BL00	88.4	55-110			
Benz[b]fluoranthene	47.8	10.8	ug/L	54.3	BL00	87.8	40-120			
Benz[b]k[a]pyrene	44.1	10.8	ug/L	54.3	BL00	81.1	45-120			
Benz[a]fluoranthene	48.3	10.8	ug/L	54.3	BL00	90.7	45-120			
1,6-Dichloro-2-naphthol	44.7	10.8	ug/L	54.3	BL00	82.2	40-120			
1,6-Dichloro-2-naphthol	43.4	10.8	ug/L	54.3	BL00	79.8	40-120			
2,7-Diethyl-1-naphthol	28.9	10.8	ug/L	54.3	BL00	73.4	40-120			
1,6-Diethyl-2-naphthol	40.0	2.72	ug/L	54.3	BL00	78.1	40-120			
Butyl benzyl phenyl ether	44.4	10.8	ug/L	54.3	BL00	81.8	45-110			
Carbazole	55.8	2.72	ug/L	54.3	BL00	100	0-200			
Chrysene	47.2	10.8	ug/L	54.3	BL00	88.8	55-110			
Dibenz[a,h]anthracene	47.8	10.8	ug/L	54.3	BL00	88.1	40-120			
Diallyl phthalate	30.4	10.8	ug/L	54.3	1.97	88.8	40-120			
Dimethyl phthalate	44.8	10.8	ug/L	54.3	BL00	84.3	25-120			
Di-n-butyl phthalate	34.8	10.8	ug/L	54.3	BL00	101	55-110			
Di-n-octyl phthalate	51.8	10.8	ug/L	54.3	BL00	96.0	35-120			
Fluoranthene	50.8	10.8	ug/L	54.3	BL00	93.7	55-110			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 040218 - 040218										
Matrix Spike (040218-01)										
Source: 040218-01 Prepared: 04022018 Analyzed: 04022018										
Fluorene	49.2	10.8	ug/L	54.3	BLCO	90.8	50-110			
Fluoranthene	53.1	0.05	ug/L	54.3	BLCO	97.7	25-125			
Benzo[a]fluoranthene	52.2	10.8	ug/L	54.3	BLCO	96.0	25-125			
Benzo[b]fluoranthene	27.7	10.8	ug/L	54.3	BLCO	90.9	25-125			
Benzo[k]fluoranthene	41.8	10.8	ug/L	54.3	BLCO	76.8	25-125			
Benzo[e]pyrene	17.8	10.8	ug/L	54.3	BLCO	87.1	40-160			
Benzo[a]pyrene	26.1	10.8	ug/L	54.3	BLCO	71.8	10-110			
Benzo[a]anthracene	44.2	10.8	ug/L	54.3	BLCO	81.5	40-160			
Indeno[1,2,3-cd]perylene	44.8	10.8	ug/L	54.3	BLCO	82.0	40-160			
1-methylanthracene	27.8	10.8	ug/L	54.3	BLCO	81.1	25-110			
1-methyl-2-naphthol	40.8	10.8	ug/L	54.3	BLCO	75.2	15-87			
1-methyl-3-naphthol	34.9	10.8	ug/L	54.3	BLCO	72.7	15-87			
2-Chloro-naphthalene	42.1	10.8	ug/L	54.3	BLCO	80.4	10-81			
2-methyl-naphthalene	55.0	21.7	ug/L	54.3	BLCO	109	27-109			W
Phenanthrene	49.0	10.8	ug/L	54.3	BLCO	90.2	50-110			
Phenol	20.2	10.8	ug/L	54.3	BLCO	37.0	0-105			
Pyrene	35.7	10.8	ug/L	54.3	BLCO	65.7	25-110			
Pyrene	26.1	10.8	ug/L	54.3	BLCO	51.8	0-200			
Sum: 2,4,6-Trinitrophenol (Sum)	100		ug/L	100		93.8	20-60			W
Sum: 2-Fluorophenyl (Sum)	47.8		ug/L	54.3		87.8	23-87			W
Sum: 3-Fluorophenyl (Sum)	46.4		ug/L	100		46.8	15-85			
Sum: Nitrobenzene(s) (Sum)	49.0		ug/L	54.3		90.8	10-90.8			
Sum: Phenol(s) (Sum)	26.0		ug/L	100		24.8	1-10			W
Sum: p-Nitrophenol(s) (Sum)	26.1		ug/L	54.3		70.7	27-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 180414H - 180418C										
Main: Spike Spg (180414H-180418C)										
Source: 180414H-180418C Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	72.8	21.8-88.7	7.75	20	NS
1,2-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	71.8	22-85	8.26	20	NS
1,3-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	88.8	22-91	8.58	20	NS
1,4-Dichlorobenzene	40.8	10.8	ug/L	34.3	BLCO	70.8	22-90	7.22	20	NS
1-Chloroacetylene	41.4	10.8	ug/L	34.3	BLCO	78.7	0-200	8.85	20	
1,4-d. Dinitrobenzene	40.8	10.8	ug/L	34.3	BLCO	73.7	50-115	8.88	20	
2,4-Dichlorophenol	43.1	10.8	ug/L	34.3	BLCO	79.3	20-100	79.2	20	
2,4-Dimethylphenol	36.2	9.24	ug/L	34.3	BLCO	88.5	30-110	14.3	20	
2,4-Dibromophenol	88.8	24.8	ug/L	34.3	BLCO	112	10-140	7.44	20	
2,4-Dinitrophenol	47.8	10.8	ug/L	34.3	BLCO	88.7	12-111	8.28	20	
2,6-Dinitrophenol	41.4	10.8	ug/L	34.3	BLCO	78.7	18-148	10.3	20	
1-Chloroacetylene	41.2	10.8	ug/L	34.3	BLCO	74.7	45-105	8.58	20	
2-Chlorophenol	38.8	10.8	ug/L	34.3	BLCO	72.8	18-84	8.48	20	NS
2-Nitrophenol	41.3	10.8	ug/L	34.3	BLCO	78.7	40-115	9.82	20	
2,2'-Dichlorodiphenyl ether	28.8	70.8	ug/L	14.3	BLCO	48.8	20-110	11.7	20	
4,4'-Dinitro-2-methylphenol	47.2	34.3	ug/L	34.3	BLCO	88.8	40-130	7.75	20	
4-Bromophenyl phenyl ether	47.8	10.8	ug/L	34.3	BLCO	88.4	18-118	11.8	20	
4-Chlorophenyl phenyl ether	45.8	10.8	ug/L	34.3	BLCO	82.8	18-118	12.2	20	
4-Nitrophenol	22.8	54.3	ug/L	34.3	BLCO	41.8	0-128	8.58	20	
Acenaphthene	43.2	10.8	ug/L	34.3	BLCO	78.8	24-90	10.3	20	
Acenaphthylene	42.8	10.8	ug/L	34.3	BLCO	78.8	20-100	11.1	20	
Acetylphenone	38.2	21.7	ug/L	34.3	BLCO	88.8	0-200	8.07	20	
alpha-Terpinene	88.8	2.73	ug/L	34.3	BLCO	84.2	0-200	10.8	20	
Anthracene	48.8	10.8	ug/L	34.3	BLCO	82.8	50-110	8.88	20	
Benz(a)anthracene	45.4	0.08	ug/L	34.3	BLCO	82.8	50-110	8.88	20	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: 8800114 - 8800100										
Main: Spike Exp (8800114-8800100)										
Source: 180819-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Benzene (a) pyrene	44.0	0.71	ug/L	54.3	BL00	67.0	55-110	5.29	20	
Benzene (a) fluoranthene	43.8	10.9	ug/L	54.3	BL00	60.8	45-130	8.48	20	
Benzene (b,a) pyrene	41.0	10.9	ug/L	54.3	BL00	75.8	40-125	7.18	20	
Benzene (b) fluoranthene	47.6	10.9	ug/L	54.3	BL00	68.0	45-120	9.00	20	
Isa (2-Clomethyl) naphthalene	40.3	10.9	ug/L	54.3	BL00	73.8	40-120	10.7	20	
Isa (2-Clomethyl) ester	40.1	10.9	ug/L	54.3	BL00	73.7	40-120	7.90	20	
2,7-Diethyl (1-chloromethyl) naphthalene	36.9	10.9	ug/L	54.3	BL00	67.8	40-120	7.93	20	
Isa (2-Ethyl) naphthalene	37.9	2.72	ug/L	54.3	BL00	68.8	40-120	12.3	20	
Butyl benzyl phenoxide	46.4	16.9	ug/L	54.3	BL00	74.0	45-115	9.44	20	
Chrysene	53.0	2.72	ug/L	54.3	BL00	66.4	0-200	5.67	20	
Dibenz(a,h)anthracene	41.1	10.9	ug/L	54.3	BL00	70.0	55-110	9.20	20	
Dibenz(a,h)anthracene	44.8	10.9	ug/L	54.3	BL00	62.4	40-120	8.89	20	
Dibenz(b,h)anthracene	45.5	10.9	ug/L	54.3	1.87	60.8	40-120	10.3	20	
Dibenz(k)anthracene	40.7	10.9	ug/L	54.3	BL00	74.0	20-120	71.8	20	
Dibenz(ghi)perylene	50.2	70.0	ug/L	54.3	BL00	60.0	55-110	8.60	20	
Dibenz(ghi)perylene	47.9	10.9	ug/L	54.3	BL00	68.2	30-130	7.47	20	
Fluoranthene	40.8	10.1	ug/L	54.3	BL00	70.2	50-110	8.85	20	
Fluorene	44.4	10.9	ug/L	54.3	BL00	61.8	50-110	10.3	20	
Hexachlorobenzene	47.0	0.88	ug/L	54.3	BL00	68.8	25-120	11.7	20	
Hexachlorobenzene	47.8	10.9	ug/L	54.3	BL00	68.0	25-120	8.78	20	
Hexachloro(2,3-dioxin)benzene	23.8	10.9	ug/L	54.3	BL00	63.0	20-120	16.1	20	
Hexachloroethane	27.9	10.9	ug/L	54.3	BL00	60.8	25-120	9.24	20	
Indeno (1,2,3-cd) pyrene	44.3	10.9	ug/L	54.3	BL00	61.4	45-120	8.87	20	
Naphthalene	35.8	10.9	ug/L	54.3	BL00	66.8	10-110	8.77	20	
Naphthalene	41.7	10.9	ug/L	54.3	BL00	74.8	40-100	8.28	20	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: 88001H - 88001C										
Main: Spike Drop (88001H-88001C) Source: 88001H-81 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Nitrobenzene	41.3	10.8	ug/L	54.3	BLOD	79.8	40-100	7.88	20	
m-Nitrodimethylamine	29.2	10.8	ug/L	54.3	BLOD	48.2	25-110	5.71	20	
m-Nitroo-n-propylamine	37.8	10.8	ug/L	54.3	BLOD	88.8	13-87	7.42	20	
m-Nitroodiphenylamine	90.9	10.8	ug/L	54.3	BLOD	68.9	12-87	10.7	20	
p-Chloroaniline	44.3	10.8	ug/L	54.3	BLOD	81.5	10-91	10.3	20	
Para-chlorophenol	54.8	21.7	ug/L	54.3	BLOD	101	27-109	8.12	20	
Phenylthiourea	42.9	10.8	ug/L	54.3	BLOD	79.0	50-115	8.91	20	
Propyl	18.5	10.8	ug/L	54.3	BLOD	33.7	0-115	9.25	20	
Pyrene	59.2	10.8	ug/L	54.3	BLOD	59.2	23-110	10.5	20	
Pyrene	21.8	10.8	ug/L	54.3	BLOD	43.5	0-200	17.4	20	
Sum 2,4,6-Trinitrophenol (Sum)	88.9		ug/L	100		81.7	20-60			
Sum 2-Fluorobiphenyl (Sum)	42.7		ug/L	54.3		78.6	23-67			
Sum 2-Fluorophenol (Sum)	43.8		ug/L	100		40.1	10-52			
Sum Nitrobenzenesulf (Sum)	41.5		ug/L	54.3		75.5	10-98.5			
Sum Phenol-sulf (Sum)	21.8		ug/L	100		31.1	5-33			
Sum p-Toluenesulfid (Sum)	34.9		ug/L	54.3		64.2	27-133			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch #000181 - SW2018C

Blank #000181-BLANK

Prepared: 04/09/2018 Analyzed: 04/18/2018

4,4'-DDE	BL00	0.050	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.050	ug/L							
PCB as Aroclor 1212	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.050	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Arochl	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.050	ug/L							
beta-BHC	BL00	0.050	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Esfen	BL00	0.050	ug/L							
Esfen aldehyde	BL00	0.050	ug/L							
gamma-BHC (Lindane)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limits	RPD	RPD Limit	Qual
Batch: 8800181 - 8800190										
Batch (8800181-880190)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Toxaphene	BLD	1.00	ug/L							
Sum DCB	0.100		ug/L	0.200		80.0	20-100			
Sum PCBs	0.100		ug/L	0.200		80.0	20-100			
Sum TCDF	0.140		ug/L	0.200		70.0	18-112			
Sum DDE	0.140		ug/L	0.200		70.0	27-131			
OCB (8800181-880190)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1'-DDE	0.080	0.050	ug/L	0.100		80.0	23-134			
1,1'-DDE	0.080	0.050	ug/L	0.100		80.0	23-134			
1,1'-DDT	0.070	0.050	ug/L	0.100		70.0	23-134			
Arocl	0.070	0.050	ug/L	0.100		70.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100		80.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Dacarb	0.080	0.050	ug/L	0.100		80.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Etoxyn	0.080	0.050	ug/L	0.100		80.0	23-134			
Etoxyn sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.080	0.050	ug/L	0.100		80.0	23-134			
Misc	0.070	0.050	ug/L	0.100		70.0	23-134			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18041811 - SW2150C										
LOC (8800181-881)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Sum PCMX	0.130		ug/L	0.200		75.0	18-112			
Sum PCB	0.140		ug/L	0.200		70.0	27-131			
LOC (8800181-882)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	0.530	0.200	ug/L	1.00		53.0	40-90			
PCB as Aroclor 1260	0.560	0.200	ug/L	1.00		56.0	40-90			
Sum PCB	0.100		ug/L	0.200		50.0	30-105			
Sum PCMX	0.100		ug/L	0.200		50.0	30-105			
LOC (8800181-883)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Total PCBs	1.05	1.00	ug/L	2.50		74.0	23-134			
Sum PCMX	0.130		ug/L	0.200		65.0	18-112			
Sum PCB	0.120		ug/L	0.200		60.0	27-131			
LOC (8800181-884)										
				Prepared: 04/09/2018 Analyzed: 04/09/2018						
Total PCBs	1.74	0.200	ug/L	2.00		87.0	23-134			
Sum PCMX	0.130		ug/L	0.200		60.0	18-112			
Sum PCB	0.120		ug/L	0.200		60.0	27-131			
Matrix Spike (8800181-885)										
				Source: 18041811-01 Prepared: 04/09/2018 Analyzed: 04/09/2018						
4,4'-DDE	0.128	0.053	ug/L	0.100	BL00	128	23-134			
4,4'-DDB	0.170	0.053	ug/L	0.100	BL00	169	23-134			W
4,4'-DDT	0.126	0.053	ug/L	0.100	BL00	126	23-134			
Arochl	0.090	0.053	ug/L	0.100	BL00	90.0	23-134			
alpha-BHC	0.148	0.053	ug/L	0.100	BL00	148	23-134			W
beta-BHC	0.170	0.053	ug/L	0.100	BL00	169	23-134			W

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limits	RPD	RPD Limit	Qual
Batch: 1802181 - 180218C										
Matrix Spike (1802181-MS1)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Endosulfan-C	0.106	0.053	ug/L	0.106	BLOD	100	23-134			
Desferal	0.100	0.050	ug/L	0.106	BLOD	750	23-134			M
Endosulfan I	0.095	0.048	ug/L	0.106	BLOD	80.0	23-134			
Endosulfan II	0.100	0.050	ug/L	0.106	BLOD	100	23-134			
Endosulfan sulfate	0.125	0.063	ug/L	0.106	BLOD	120	23-134			
Evans	0.120	0.060	ug/L	0.106	BLOD	120	23-134			
Endrin aldehyde	0.085	0.043	ug/L	0.106	BLOD	80.0	23-134			
gamma-BHC (Lindane)	0.104	0.052	ug/L	0.106	BLOD	100	23-134			
Heptachlor	0.117	0.059	ug/L	0.106	BLOD	110	23-134			
Heptachlor epoxide	0.117	0.059	ug/L	0.106	BLOD	110	23-134			
Methoxychlor	0.120	0.060	ug/L	0.106	BLOD	120	23-134			
Metolachlor	0.074	0.037	ug/L	0.106	BLOD	70.0	23-134			
Sum PCMX	0.138		ug/L	0.213		65.0	18-112			
Sum PCB	0.181		ug/L	0.213		90.0	27-131			
Matrix Spike (1802181-MS2)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
PCB as Aroclor 1218	1.10	0.220	ug/L	1.10	BLOD	101	40-120			M
PCB as Aroclor 1260	1.09	0.220	ug/L	1.10	BLOD	99.0	40-120			
Sum PCB	0.143		ug/L	0.220		83.0	30-100			
Sum PCMX	0.137		ug/L	0.220		80.0	30-100			
Matrix Spike Dup (1802181-MSD1)										
Source: 180218-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
4,4'-DDE	0.086	0.043	ug/L	0.106	BLOD	80.0	23-134	26.0	20	P
4,4'-DDE	0.129	0.064	ug/L	0.106	BLOD	100	23-134	27.8	20	P
4,4'-DDT	0.086	0.043	ug/L	0.106	BLOD	80.0	23-134	26.0	20	P
Aldrin	0.075	0.038	ug/L	0.106	BLOD	70.0	23-134	21.6	20	P

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limits	RFD	RFD Limit	Qual
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Batch #800181 - 800180

Matrix Spike Dup (#800181-800180)	Source: 180218-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
alpha-BHC	0.075	0.054	ug/L	0.100	BLDG	70.0	25-134	65.7	20	P
beta-BHC	0.108	0.054	ug/L	0.100	BLDG	100	25-134	85.1	20	P
gamma-BHC	0.088	0.054	ug/L	0.100	BLDG	80.0	25-134	21.2	20	P
Delta	0.119	0.054	ug/L	0.100	BLDG	119	25-134	29.7	20	P
Endosulfan I	0.060	0.054	ug/L	0.100	BLDG	60.0	25-134	27.8	20	P
Endosulfan II	0.070	0.054	ug/L	0.100	BLDG	70.0	25-134	24.2	20	P
Endosulfan sulfate	0.075	0.054	ug/L	0.100	BLDG	70.0	25-134	51.8	20	P
Epom	0.097	0.054	ug/L	0.100	BLDG	90.0	25-134	27.5	20	P
Endrin aldehyde	0.085	0.054	ug/L	0.100	BLDG	80.0	25-134	27.5	20	P
gamma-BHC (Lindane)	0.088	0.054	ug/L	0.100	BLDG	80.0	25-134	21.2	20	P
Heptachlor	0.097	0.054	ug/L	0.100	BLDG	90.0	25-134	18.8	20	
heptachlor epoxide	0.075	0.054	ug/L	0.100	BLDG	70.0	25-134	63.4	20	P
Methoxychlor	0.100	0.054	ug/L	0.100	BLDG	100	25-134	17.1	20	
Mirex	0.060	0.054	ug/L	0.100	BLDG	60.0	25-134	14.2	20	
Sum TCDD	0.100		ug/L	0.218		60.0	18-112			
Sum DCB	0.140		ug/L	0.218		60.0	27-131			

Matrix Spike Dup (#800181-800180)	Source: 180218-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1018	2.28	0.220	ug/L	1.10	BLDG	217	40-130	12.7	20	M
PCB as Aroclor 1260	0.998	0.220	ug/L	1.10	BLDG	87.0	40-130	12.8	20	
Sum DCB	0.140		ug/L	0.220		60.0	20-100			
Sum TCDF	0.132		ug/L	0.220		60.0	20-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Organochlorine Herbicides by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0203 - SW3510C										
Blank (BBD0203-BLK1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Permethylenesulfonate	BLOD	0.500	ug/L							
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
LC8 (BBD0203-BL1)										
					Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.389	0.500	ug/L	0.500		70.0	53-144			
2,4,5-TP (Silvex)	0.550	0.500	ug/L	0.500		90.0	52-129			
2,4-D	0.811	0.500	ug/L	0.500		110	53-126			
Dinoseb	0.333	0.500	ug/L	0.500		60.0	60-137			L
Permethylenesulfonate	0.389	0.500	ug/L	0.500		70.0	52-124			
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M01)										
					Source: 18041984-01 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.500	0.500	ug/L	0.500	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.444	0.500	ug/L	0.500	BLOD	80.0	52-129			
2,4-D	0.500	0.500	ug/L	0.500	BLOD	90.0	53-126			
Dinoseb	0.555	0.500	ug/L	0.500	BLOD	60.0	60-137			M
Permethylenesulfonate	0.500	0.500	ug/L	0.500	BLOD	70.0	52-124			
Sum OCAs (Sum)	1.50		ug/L	1.11		120	60-112			S
Mark's Spike (BBD0203-M02)										
					Source: 18041984-02 Prepared: 04/09/2018 Analyzed: 04/17/2018					
2,4,5-T	0.444	0.500	ug/L	0.500	BLOD	80.0	53-144			
2,4,5-TP (Silvex)	0.556	0.500	ug/L	0.500	BLOD	100	52-129			

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Organizations Participates by OQSCD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18020213 - 180215C										
Matrix Spike (18020213-MS1)										
Source: 18020213-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4-D	0.598	0.500	ug/L	0.598	BLDG	100	93-128			
Diuron	0.444	0.500	ug/L	0.598	BLDG	80.0	80-137			
Permethrin/phenol	0.000	0.500	ug/L	0.598	BLDG	80.0	82-124			
Sum OCMA (Sum)	1.02		ug/L	1.17		100	89-112			
Matrix Spike Dup (18020213-MS2)										
Source: 18021514-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.444	0.500	ug/L	0.598	BLDG	80.0	82-144	11.8	20	
2,4,5-TP (Diuron)	0.444	0.500	ug/L	0.550	BLDG	80.0	82-120	0.00	20	
2,4-D	0.500	0.500	ug/L	0.598	BLDG	80.0	93-128	0.00	20	
Diuron	0.300	0.500	ug/L	0.598	BLDG	80.0	80-137	0.00	20	M
Permethrin/phenol	0.000	0.500	ug/L	0.598	BLDG	70.0	82-124	0.00	20	
Sum OCMA (Sum)	1.72		ug/L	1.17		100	89-112			0
Matrix Spike Dup (18020213-MS3)										
Source: 18020214-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.598	0.500	ug/L	0.598	BLDG	80.0	82-144	0.00	20	
2,4,5-TP (Diuron)	0.500	0.500	ug/L	0.550	BLDG	80.0	82-120	10.5	20	
2,4-D	0.500	0.500	ug/L	0.550	BLDG	90.0	93-128	10.5	20	
Diuron	0.388	0.500	ug/L	0.598	BLDG	70.0	80-137	13.1	20	
Permethrin/phenol	0.444	0.500	ug/L	0.598	BLDG	80.0	82-124	11.8	20	
Sum OCMA (Sum)	1.80		ug/L	1.17		80.0	89-112			

Certificate of Analysis

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Micro-estimation by CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 18040208 - 3756171										
Blank (18040208-BLANK)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	BL00	0.010	ug/L							
1,2,3-Trichloropropane	BL00	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL00	0.010	ug/L							
LC8 (18040208-LC8)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.176	0.010	ug/L	0.150		111	65-135			
1,2,3-Trichloropropane	0.244	0.010	ug/L	0.250		97.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.324	0.010	ug/L	0.350		130	65-135			
LC8 Dup (18040208-LC8D)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.318	0.010	ug/L	0.350		126	65-135	12.5	20	
1,2,3-Trichloropropane	0.299	0.010	ug/L	0.290		104	65-135	5.95	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.500	0.010	ug/L	0.350		141	65-135	8.61	20	L
Main Spike (18040208-M31)										
Source: 1804176-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.227	0.010	ug/L	0.248	BL00	91.7	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.248	BL00	120	65-135			
Main Spike (18040208-M32)										
Source: 1804208-01 Prepared: 04/10/2018 Analyzed: 04/10/2018										
1,2-Dibromoethane (DBE)	0.263	0.010	ug/L	0.248	BL00	108	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.010	ug/L	0.248	BL00	108	65-135			
Main Spike Dup (18040208-M32D)										
Source: 1804176-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.264	0.010	ug/L	0.248	BL00	108	65-135	15.1	20	
1,2,3-Trichloropropane	0.188	0.010	ug/L	0.248	BL00	83.2	65-135	5.45	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.280	0.010	ug/L	0.248	BL00	158	65-135	27.4	20	M, P

Certificate of Analysis

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Micro-analyses by CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch: 18042008 - 000071

Matrix Spike (ug)	Source: 18042008-01	Prepared: 04/09/2018	Analyzed: 04/10/2018							
1,2-Dichloroethane (DCE)	0.199	0.010	ug/L	0.248	BLDG	79.0	85-135	32.8	20	P
1,2,3-Trichloropropane	0.192	0.010	ug/L	0.248	BLDG	89.3	85-135	14.2	20	P
1,2-Dichloro-3-chloropropane (DCCP)	0.164	0.010	ug/L	0.248	BLDG	88.2	85-135	48.7	20	P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual	
Batch BR00218 - No Prep Wet Chem											
Blank (BR00218-BLX)	Prepared & Analyzed: 04/09/2018										
Sulfide	BLOD	1.00	mg/L								
LCS (BR00218-001)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.21	1	mg/L	0.00		91.2	80-120				
LCS Dup (BR00218-002)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.34	1	mg/L	0.00		87.8	80-120	2.00%	20		
Matrix Spike (BR00218-003)	Source: BR00218-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.32	1.00	mg/L	0.00	BLOD	88.8	75-125				
Matrix Spike Dup (BR00218-004)	Source: BR00218-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.36	1.00	mg/L	0.00	BLOD	87.8	75-125	1.58	20		
Batch BR00204 - No Prep Wet Chem											
Blank (BR00204-BLX)	Prepared & Analyzed: 04/11/2018										
Cyanide	BLOD	0.01	mg/L								
LCS (BR00204-001)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.27	0.01	mg/L	0.250		108	80-120				
LCS Dup (BR00204-002)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.26	0.01	mg/L	0.250		111	80-120	2.84	20		
Matrix Spike (BR00204-003)	Source: BR00204-01				Prepared & Analyzed: 04/11/2018						
Cyanide	0.30	0.01	mg/L	0.250	BLOD	120	80-120			M	

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
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Batch: 180528H - Wet Chem Wet Chem

Matrix Spike Conc (180528H-MS01)	Source: 180528H-01	Received & Analyzed: 04/11/2018
Cyanide	0.35	0.01 mg/L
	0.290	BLDG
	1.00	80-120
	7.00	20
		50

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Date Issued: 4/18/2018 4:07:27PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Metals (Total) by EPA 8220/7000 Surface Methods					
180019-01	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 50.0 mL	8220/7000	8220/7000	SBD0198	AD80031
Non-Chromating Analysis					
180019-01	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	5.00 mL / 5.00 mL	8220/7000	8220/7000	SBD0198	AD80031
Semi-volatile Organic Compounds by GCMS					
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-01	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031
180019-02	50.0 mL / 1.00 mL	8220/7000	8220/7000	SBD0198	AD80031

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides by GC/ECD					
1800114-02	500 mL / 10.00 mL	SW60104	SW00000	SW00045	AC00001
Metals Organic Compounds by GC/MS					
1800114-01	5.00 mL / 0.50 mL	SW60008	SW00101	SW00149	AC00002
1800114-02	5.00 mL / 0.50 mL	SW60008	SW00101	SW00149	AC00002
1800114-03	5.00 mL / 0.50 mL	SW60008	SW00101	SW00149	AC00002
Metals (Total) by EPA 8220/7000 Series Methods					
1800114-01	250 mL / 20.0 mL	SW74704	SW00000	SW00038	AC00003
1800114-02	250 mL / 20.0 mL	SW74704	SW00000	SW00038	AC00003
Metals Inorganics by GC/ECD					
1800114-01	60.0 mL / 3.00 mL	SW60011	SW00000	SW00190	AC00006
1800114-02	60.0 mL / 3.00 mL	SW60011	SW00000	SW00190	AC00006
1800114-03	60.0 mL / 3.00 mL	SW60011	SW00000	SW00190	AC00006

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EM6110C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Vanadium	VELAPWDEP
Zinc	VELAPWDEP
EM6030A in Non-Potable Water	
Antimony	VELAPNC.WVDEP
Arsenic	VELAPWDEP
Thallium	VELAPWVDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WVDEP
EM6011 in Non-Potable Water	
1,2-Dibromoethane (DBE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-5-chloropropane (DBCP)	VELAPNC
EM6018 in Non-Potable Water	
4,4'-DDD	NC.VELAPWVDEP

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Certified Analyses included in this Report

Analyte	Certification
1,1-DCE	NC,VELAP,WYDEP
1,1-DOT	NC,VELAP,WYDEP
Atrix	NC,VELAP,WYDEP
alpha-BHC	NC,VELAP,WYDEP
beta-BHC	NC,VELAP,WYDEP
Chrysene	NC,VELAP,WYDEP
delta-BHC	NC,VELAP,WYDEP
Dieldrin	NC,VELAP,WYDEP
Endosulfan I	NC,VELAP,WYDEP
Endosulfan II	NC,VELAP,WYDEP
Endosulfan sulfate	NC,VELAP,WYDEP
Endrin	NC,VELAP,WYDEP
Endrin aldehyde	NC,VELAP,WYDEP
gamma-BHC (Lindane)	NC,VELAP,WYDEP
Heptachlor	NC,VELAP,WYDEP
Heptachlor epoxide	NC,VELAP,WYDEP
Methoxychlor	NC,VELAP,WYDEP
Toxaphene	NC,VELAP,WYDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WYDEP
PCB as Aroclor 1221	VELAP,NC,WYDEP
PCB as Aroclor 1232	VELAP,NC,WYDEP
PCB as Aroclor 1242	VELAP,NC,WYDEP
PCB as Aroclor 1248	VELAP,NC,WYDEP
PCB as Aroclor 1254	VELAP,NC,WYDEP
PCB as Aroclor 1260	VELAP,NC,WYDEP
EMBTGA in Non-Potable Water	
2,4,5-T	VELAP,NC

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silox)	VELAPNC
2,4-D	VELAPNC
Creosol	VELAPNC
Pentachlorophenol	VELAPNC
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropene	NC,VELAP,WVDEP
1,2-Trichloroethane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloroethane	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MIBK)	NC,VELAP,WVDEP
2-Hexanone (MIBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, VELAP, WYDEP
Benzene	NC, VELAP, WYDEP
Bromochloromethane	NC, VELAP, WYDEP
Bromodichloromethane	NC, VELAP, WYDEP
Bromoform	NC, VELAP, WYDEP
Bromomethane	NC, VELAP, WYDEP
Carbon disulfide	NC, VELAP, WYDEP
Carbon tetrachloride	NC, VELAP, WYDEP
Chlorobenzene	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
Chloroacetylene	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethyl methylsulfide	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Hexachlorobutadiene	NC, VELAP, WYDEP
Isobutane	NC, VELAP, WYDEP
Isobutyl Alcohol	NC, VELAP, WYDEP
m,p-Xylenes	NC, VELAP, WYDEP
Methacrylonitrile	NC, VELAP, WYDEP
Methyl methacrylate	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
EMBTSS in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC,VELAP,WVDEP
1,3,5-Trinitrobenzene	NC,VELAP,WVDEP
1,3-Dinitrobenzene	NC,VELAP,WVDEP
1,4-Naphthoquinone	NC,VELAP,WVDEP
1-Naphthylamine	NC,VELAP,WVDEP
2,3,4,6-Tetrachlorophenol	NC,VELAP,WVDEP
2,4,5-Trichlorophenol	NC,VELAP,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,VELAP,WVDEP
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,VELAP,WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
2-Chlorophenol	NC, VELAP, WYDEP
2-Chlorophenol	NC, VELAP, WYDEP
2-Methylnaphthalene	NC, VELAP, WYDEP
2-Naphthylamine	NC, VELAP, WYDEP
2-Nitroaniline	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
3,3'-Dichlorobenzidine	NC, VELAP, WYDEP
3,3'-Dimethylbenzidine	NC, VELAP, WYDEP
3-Methylcholanthrene	NC, VELAP, WYDEP
3-Nitroaniline	NC, VELAP, WYDEP
4,8-Dioxo-2-naphthol	NC, VELAP, WYDEP
4-Aminodiphenyl ether	NC, VELAP, WYDEP
4-Bromodiphenyl ether	NC, VELAP, WYDEP
4-Chloroaniline	NC, VELAP, WYDEP
4-Chlorodiphenyl ether	NC, VELAP, WYDEP
4-Nitroaniline	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro-o-toluidine	NC, VELAP, WYDEP
7,7'-Dimethylbenz (a) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benzo (a) anthracene	NC, VELAP, WYDEP
Benzo (a) pyrene	NC, VELAP, WYDEP
Benzo (b) fluoranthene	NC, VELAP, WYDEP
Benzo (g,h,i) perylene	NC, VELAP, WYDEP
Benzo (k) fluoranthene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
1,2-Dichloro (1-chloropropane)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chloroacrylate	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Diethyl phthalate	NC, NELAP, WYDEP
Dimethyl maleate	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dioxin	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Isobutyl (1,3,5-tri) pyrene	NC, VELAP, WYDEP
Isobutyl	NC, VELAP, WYDEP
Isophorone	NC, VELAP, WYDEP
Isosorbide	NC, VELAP, WYDEP
Ketone	NC, VELAP, WYDEP
m-p-Cresol	NC, VELAP, WYDEP
Methoxyflene	NC, VELAP, WYDEP
Methyl methanesulfonate	NC, VELAP, WYDEP
Methyl parathion	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
Nitrobenzene	NC, VELAP, WYDEP
n-Nitrosodibutylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitrosod-n-butylamine	NC, VELAP, WYDEP
n-Nitrosod-n-propylamine	NC, VELAP, WYDEP
n-Nitrosodiphenylamine	NC, VELAP, WYDEP
n-Nitrosomethylbutylamine	NC, VELAP, WYDEP
n-Nitrosopiperidine	NC, VELAP, WYDEP
n-Nitrosopyrrolidine	NC, VELAP, WYDEP
o,o'-Diethyl phosphorothioate	NC, VELAP, WYDEP
o,o'-Diethyl o-2-pyridyl phosphorothioate	NC, VELAP, WYDEP
o-m-p-Cresol	VELAP, WYDEP
o-Cresol	NC, VELAP, WYDEP
o-Toluidine	NC, VELAP, WYDEP
p-(Dimethylamino) azobenzene	NC, VELAP, WYDEP
p-Chloro-m-cresol	NC, VELAP, WYDEP
Pentachlorobenzene	NC, VELAP, WYDEP
Pentachloronitrobenzene (quinazone)	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Certified Analyses included in this Report

Analyte	Certification
Phenacetic	NC VELAP/WVDEP
Phenanthrene	NC VELAP/WVDEP
Phenol	NC VELAP/WVDEP
Phenols	NC VELAP/WVDEP
p-Phenylenediamine	NC VELAP/WVDEP
Pyrene	NC VELAP/WVDEP
Solxol	NC VELAP/WVDEP
SM9128 in Non-Potable Water	
County	VELAP
SM9218 in Non-Potable Water	
County	VELAP

Code	Description	Exp. Number	Expires
MD208	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	461	12/31/2018
VELAP Certificate #4337	VELAP/Virginia Certificate #6001	49(02)	09/14/2018
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:07:27PM

Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Temporarily Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected congeners 1016, 1021, 1022, 1048, 1054, 1060, 1062, and 1068.



1841 REYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 355-8295 PHONE
 (804)355-8297 FAX

Chain of Custody
 Form# C-0124
 Rev. 1.0
 Effective Feb 14, 2018

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Colpeper Environmental Services	PROJECT NAME/Well# #: LYDOLP Compliance Wells
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Colpeper)
ADDRESS: 1604 Owenby Lane, Richmond, VA 23220	INVOICE ADDRESS: 111 West State Street, Suite 101, Colonial VA, 23201	PROJECT NUMBER: Job No. 2180019-00-01
PHONE #: (804) 355-8295	INVOICE PHONE #: (840) 727-2808	P.O. #:
FAX #: (804) 355-4382	EMAIL: jwhite@joyceeng.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Jordan* SAMPLER SIGNATURE: *M. Jordan* Turn Around Time: 10 Day(s)

Matrix Codes: WWR-Waste Water/Storm Water GW-Ground Water DW-Drinking Water Ind-Industrial CW-Cesspit A-Air WP-Water CC-Clean

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Disinfectant Resistant)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)		COMMENTS
											VIEWER 101 11B	101 11B WOC	
1) Equipment Blank	<input checked="" type="checkbox"/>												Preservative Codes: 1=HCl/2=Ascorbic Acid/3=Butane/4=Inducton/5=Hydroxide/6=Acetic Acid/7=Dist. Ammonia/8=Bole/9=Thiosulfate/10=Other
2) Field Blank	<input checked="" type="checkbox"/>												
3) Trip Blank													
4)													
5)													
6)													
7)													
8)													
9)													

10/10/2018 10:41 AM	[Signature] DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	QC Data Package LAB USE ONLY COOLER TEMP: 10.0 °C
	[Signature] DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	1. LaBella Associates, 18D0114 2. Laurel Valley Compliance Wells 3. Recd: 04/04/2018 Due: 04/18/2018
	[Signature] DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	4.
	[Signature] DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	DATE / TIME: 10/10/2018 10:41 AM RECEIVED: [Signature]	5.



Sample Preservation Log

Sample Preservation Log
 Form # F1301
 Rev # 2.0
 Effective Date 08/20/08
 Page 1 of 1

Order ID: 1800114

Date Performed: 04/24/10

Analyst Performing Check: SLW

Page 189 of 190

Sample ID	ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3/NO2		DBP		Pesticide (PBT/PBT/POB)		SVOC (PBT/POB/POB)		CrVI		Perchlor (DBP / POB/POB)		
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
01	A																	X		X						
01	E	X																								
01	F		X																							
01	G			X																						
02	A																	X		X						
02	E	X																								
02	F		X																							
02	G			X																						

NaOH ID: _____ HNO₃ ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂S₂O₃ ID: _____ ** pH must be adjusted between 9.3 - 9.7*
 HCL ID: _____ Na₂SO₃ ID: _____ Buffer Sol'n ID: _____
 1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laural Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:07:27PM**

Sample Conditions Checklist

Sample Received at	11:07PM
Was your sample cooled?	Yes
Was cooling from cold? If so, was the cooled item?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (above freezing to 7°C or cooled to 4°C and stored later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? (VOC sample sets include EPA8211, EPA824, EPA8260, EPA824, EPA8215 GRO, EPA8021, EPA824, and RSG-175)	Yes
Are all samples received appropriately preserved? (Note that metals containers do not require field preservation but lab preservation may delay analysis)	Yes

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 1808114-01 Client Sample ID: MA-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW610C	174		2.0	10.0	1	ug/L
Cobalt	01	SW610C	13.1		2.0	4.0	1	ug/L
Mercury	01	SW610C	6.3	J	2.0	10.0	1	ug/L
Thallium	01	SW610A	1.10	J	1.00	2.00	1	ug/L
1,1-Dichloroethene	01	SW620B	8.62		0.40	1.00	1	ug/L
1,2-Dichloroethene	01	SW620B	0.29	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW620B	4.05		0.40	1.00	1	ug/L
Benzene	01	SW620B	1.87		0.40	1.00	1	ug/L
Chlorobenzene	01	SW620B	2.69		0.40	1.00	1	ug/L
Chloroethane	01	SW620B	2.22		0.40	1.00	1	ug/L
Chloroform	01	SW620B	6.58	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethene	01	SW620B	4.75		0.40	1.00	1	ug/L
trans-1,2-Dichloroethene	01	SW620B	0.40	J	0.40	1.00	1	ug/L
Tetrachloroethene	01	SW620B	1.33		0.40	1.00	1	ug/L
Vinyl chloride	01	SW620B	2.98		0.30	0.50	1	ug/L
Styrene	01	SW620B	1.87	J	1.10	11.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 18D0116-02

Client Sample ID: MW-2B

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	285		2.0	10.0	1	ug/L
Cobalt	02	SW6010C	40.1		2.0	4.0	1	ug/L
Nickel	02	SW6010C	62.1		2.0	10.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	4.19		0.40	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	1.28		0.20	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	14.8		0.40	1.00	1	ug/L
Benzene	02	SW8260B	1.67		0.30	1.00	1	ug/L
Chlorobenzene	02	SW8260B	12.8		0.40	1.00	1	ug/L
Chloroethane	02	SW8260B	0.77	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	4.64		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260B	1.56		0.30	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.72		0.30	0.50	1	ug/L
Diethyl phthalate	02	SW8270D	2.35	J	1.00	10.0	1	ug/L

Laboratory Sample ID: 18D0116-03

Client Sample ID: MW-3A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010C	214		2.0	10.0	1	ug/L
Cobalt	03	SW6010C	88.6		2.0	4.0	1	ug/L
Nickel	03	SW6010C	8.4	J	2.0	10.0	1	ug/L
Zinc	03	SW6010C	10.1		10.0	10.0	1	ug/L
1,4-Dichlorobenzene	03	SW8260B	0.98	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260B	0.87	J	0.40	1.00	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Laboratory Sample ID: 1809118-04 Client Sample ID: MW-4

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Barium	04	SW6010C	164		2.0	10.0	1	ug/L
Chromium	04	SW6010C	20.8		4.0	10.0	1	ug/L
Cadmium	04	SW6010C	24.4		2.0	4.0	1	ug/L
Copper	04	SW6010C	28.1		3.0	10.0	1	ug/L
Nickel	04	SW6010C	24.8		2.0	10.0	1	ug/L
Vanadium	04	SW6010C	58.1		2.0	10.0	1	ug/L
Zinc	04	SW6010C	53.5		10.0	30.0	1	ug/L
1,1-Dichloroethane	01	SW8260B	2.85		0.50	1.00	1	ug/L
1,3-Dichlorobenzene	04	SW8260B	0.52	J	0.20	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8260B	11.1		0.40	1.00	1	ug/L
Benzene	04	SW8260B	1.47		0.20	1.00	1	ug/L
Chlorobenzene	04	SW8260B	8.78		0.40	1.00	1	ug/L
Chloroethane	04	SW8260B	1.18		0.40	1.00	1	ug/L
o-1,2-Dichloroethane	01	SW8260B	4.14		0.70	1.00	1	ug/L
m,p-Xylenes	04	SW8260B	0.87	J	0.50	2.00	1	ug/L
o-Xylene	04	SW8260B	1.85		0.20	1.00	1	ug/L
Toluene	04	SW8260B	0.58	J	0.20	1.00	1	ug/L
Vinyl acetate	04	SW8260B	0.70		0.20	0.50	1	ug/L
Xylenes, Total	04	SW8260B	2.72	J	1.00	3.00	1	ug/L

Laboratory Sample ID: 1809118-05 Client Sample ID: MW-26

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Barium	05	SW6010C	14.2		2.0	10.0	1	ug/L
Chromium	05	SW6010C	5.0	J	4.0	10.0	1	ug/L
Nickel	05	SW6010C	4.8	J	2.0	10.0	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-6200 Fax: (804) 298-6207

Certificate of Analysis

Final Report

Laboratory Order ID 1809116

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 4, 2018 16:16
Date Issued: April 18, 2018 16:05
Project Number: 2180019.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/04/2018 16:16. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Scyars
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfate that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-18	1806118-01	Ground Water	04/03/2018 08:35	04/04/2018 16:16
SW-28	1806118-02	Ground Water	04/03/2018 08:05	04/04/2018 16:16
SW-3A	1806118-03	Ground Water	04/03/2018 07:50	04/04/2018 16:16
SW-4	1806118-04	Ground Water	04/03/2018 09:55	04/04/2018 16:16
SW-20	1806118-05	Ground Water	04/04/2018 09:25	04/04/2018 16:16

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	10.0	1	ug/L	JW
Arsenic	01	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	104		2.0	10.0	1	ug/L	JW
Beryllium	01	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	4.0	1	ug/L	JW
Cadmium	01	7440-43-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	4.0	1	ug/L	JW
Cobalt	01	7440-48-4	8000/7000	04/09/2018 12:30	04/09/2018 17:10	15.1		2.0	4.0	1	ug/L	JW
Chromium	01	7440-47-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		4.0	10.0	1	ug/L	JW
Copper	01	7440-50-8	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	10.0	1	ug/L	JW
Mercury	01	7439-97-4	8074/716	04/10/2018 08:28	04/10/2018 15:27	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000/7000	04/09/2018 12:30	04/09/2018 17:10	6.3	J	2.0	10.0	1	ug/L	JW
Lead	01	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		0.0	10.0	1	ug/L	JW
Antimony	01	7440-35-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		40.0	50.0	1	ug/L	JW
Tin	01	7440-31-0	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		20.0	20.0	1	ug/L	JW
Thallium	01	7440-28-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:20	1.10	J	1.00	2.00	1	ug/L	BCV
Zinc	01	7440-65-3	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		2.0	10.0	1	ug/L	JW
Van	01	7440-68-6	8000/7000	04/09/2018 12:30	04/09/2018 17:10	BL00		10.0	10.0	1	ug/L	JW
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	811-32-4	8160000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.10	0.40	1	ug/L	JW
1,1,1-Trifluoroethane	01	71-68-8	8160000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.10	1.00	1	ug/L	JW
1,1,2,2-Tetrafluoroethane	01	78-34-5	8160000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.40	0.40	1	ug/L	JW
1,1,2-Trifluoroethane	01	78-36-9	8160000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.50	1.00	1	ug/L	JW
1,1-Dichloroethane	01	78-36-3	8160000	04/09/2018 17:53	04/09/2018 17:53	0.62		0.40	1.00	1	ug/L	JW
1,1-Dichloroethylene	01	78-36-4	8160000	04/09/2018 17:53	04/09/2018 17:53	BL00		0.20	1.00	1	ug/L	JW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-18

Laboratory Sample ID: 180918-01

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1-Dichloroethane	01	585-85-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropane	01	96-18-4	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	01	100-63-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	01	95-50-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	0.28	J	0.20	1.00	1	ug/L	JCW
1,3-Dichloroethane	01	107-06-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dibromopropane	01	7647-3	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	01	94-73-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropene	01	142-28-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dioxinobenzene	01	100-48-7	SW820008	04/05/2018 17:52	04/05/2018 17:53	4.81		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	01	594-29-7	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	2.00	1	ug/L	JCW
2-Butanone (MEK)	01	78-93-3	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
3-methyl-2-butanone (MIBK)	01	821-79-5	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	01	109-10-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.00	5.00	1	ug/L	JCW
Axetone	01	67-64-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		7.00	10.0	1	ug/L	JCW
Acetone	01	75-07-6	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.50	10.0	1	ug/L	JCW
Axeton	01	107-03-8	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		5.50	10.0	1	ug/L	JCW
Acrylonitrile	01	107-13-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.70	8.00	1	ug/L	JCW
Allyl chloride	01	107-05-1	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	1.00	1	ug/L	JCW
Benzene	01	71-43-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	1.87		0.20	1.00	1	ug/L	JCW
Bromochloromethane	01	74-97-6	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	01	75-27-4	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	0.50	1	ug/L	JCW
Bromoflame	01	75-25-2	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.00	1	ug/L	JCW
Bromomethane	01	74-83-9	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Carbon disulfide	01	75-16-5	SW820008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.00	10.0	1	ug/L	JCW

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	01	106-90-7	SW826008	04/05/2018 17:52	04/05/2018 17:53	2.88		0.40	1.00	1	ug/L	JCW
Chloroethane	01	75-00-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	2.22		0.40	1.00	1	ug/L	JCW
Chloroform	01	67-68-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.40	0.80	1	ug/L	JCW
Chloromethane	01	74-87-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	3.88		0.50	1.00	1	ug/L	JCW
Chloroprene	01	105-65-8	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	3.00	1	ug/L	JCW
cis-1,2-Dichloroethylene	01	100-00-2	SW826008	04/05/2018 17:52	04/05/2018 17:53	6.79		0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	01	60014-01-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Dibromochloromethane	01	13466-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	21.00		0.50	0.50	1	ug/L	JCW
Dibromomethane	01	74-95-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	01	75-71-8	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		1.00	1.00	1	ug/L	JCW
Ethyl methyl ether	01	61-61-7	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	0.50	1	ug/L	JCW
Ethylbenzene	01	100-41-4	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW
Fluorochlorobutane	01	67-66-3	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	0.80	1	ug/L	JCW
Isoprene	01	74-98-4	SW826009	04/05/2018 17:52	04/05/2018 17:53	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	01	78-83-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		18.0	80.0	1	ug/L	JCW
propylene	01	17501-25-1	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	2.00	1	ug/L	JCW
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.50	1	ug/L	JCW
Methyl methacrylate	01	95-62-6	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.80	2.00	1	ug/L	JCW
Methylene chloride	01	75-09-2	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		2.00	4.00	1	ug/L	JCW
n-Heptane	01	95-47-8	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.50	1.00	1	ug/L	JCW
Propionitrile	01	107-12-0	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		7.30	40.0	1	ug/L	JCW
Styrene	01	100-42-5	SW826008	04/05/2018 17:52	04/05/2018 17:53	BL00		0.20	1.00	1	ug/L	JCW

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-18

Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	01	108-88-3	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	01	156-60-1	8260.000	04/05/2018 17:52	04/05/2018 17:53	0.40	J	0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	01	1009-10-8	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	01	156-61-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		1.50	4.00	1	ug/L	JDW
Trichloroethylene	01	76-01-6	8260.000	04/05/2018 17:52	04/05/2018 17:53	1.33		0.30	1.00	1	ug/L	JDW
Trorochloroethylene	01	79-00-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	01	109-28-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	01	78-07-4	8260.000	04/05/2018 17:52	04/05/2018 17:53	2.90		0.30	0.50	1	ug/L	JDW
Aromatics, Total	01	1330-20-7	8260.000	04/05/2018 17:52	04/05/2018 17:53	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethene-d4 (Sum)	01	62.5 %	75-120	04/05/2018 17:53	04/05/2018 17:53							
Sum: 4-Bromochlorobenzene (Sum)	01	60.0 %	75-130	04/05/2018 17:53	04/05/2018 17:53							
Sum: 4-Bromochlorobenzene-d4 (Sum)	01	64.4 %	80-119	04/05/2018 17:53	04/05/2018 17:53							
Sum: Toluene-d8 (Sum)	01	65.9 %	85-129	04/05/2018 17:53	04/05/2018 17:53							

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Client Sample ID: **MW-18**

Laboratory Sample ID: **180618-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
1,2,5-Trichlorobenzene	01	99-35-4	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	5.49	1	ug/L	SKS
1,3-Dichlorobenzene	01	99-65-9	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
1,4-Naphthoquinone	01	130-19-4	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
1-Naphthylene	01	124-32-7	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
1,2,4,5-Tetrahydroxybenzene	01	94-90-3	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	01	90-09-4	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
1,4-Dimethoxybenzene	01	120-83-2	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-8	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dinitrophenol	01	81-26-6	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		0.59	14.9	1	ug/L	SKS
2,7-Dinitrofluorene	01	121-14-0	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,8-Dinitrophenol	01	87-62-0	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,6-Dinitrofluorene	01	606-20-2	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Acetylnaphthalene	01	5346-3	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Chlorophenol	01	90-07-0	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2-Methylnaphthalene	01	91-07-6	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
2-Naphthylene	01	91-59-8	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
2-Nitrofluorene	01	88-78-4	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
2-Nitrophenol	01	88-75-3	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,7-Dinitrobenzidine	01	81-84-1	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		4.40	11.0	1	ug/L	SKS
2,7-Dimethylbenzidine	01	119-93-7	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKS
3-Methyltoluene	01	94-49-5	SW82700	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS

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Client Sample ID: **MW-18**

Laboratory Sample ID: **180618-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	01	94-09-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
1,3-Dinitro-2-methylbenzene	01	934-02-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	54.9	1	ug/L	SKS
4-Aminodiphenyl	01	92-87-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
4-Bromodiphenyl ether	01	101-85-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
4-Chlorodiphenyl ether	01	106-47-9	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
4-Dimethyldiphenyl ether	01	3006-13-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
4-Fluorodiphenyl ether	01	100-01-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
4-Nitrodiphenyl ether	01	100-02-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	54.9	1	ug/L	SKS
5-Nitro-1-naphthol	01	89-85-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
7,12-Dinitrofluorene (a) sulfonamide	01	87-87-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Acenaphthene	01	85-13-5	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Acenaphthylene	01	105-90-8	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Acenaphthone	01	98-08-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		2.20	22.0	1	ug/L	SKS
Anthracene	01	130-13-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (a) anthracene	01	54-56-3	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-6	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		0.05	0.11	1	ug/L	SKS
Benzo (a) fluoranthene	01	200-084-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (ghi) perylene	01	181-24-2	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Benzo (l) acenaphthene	01	100-81-4	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	22.0	1	ug/L	SKS
ben (2-Chloromethyl) naphthalene	01	111-81-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
ben (2-Chloromethyl) ether	01	111-44-4	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	01	106-80-1	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	01	117-81-7	SM82700	04/09/2018 08:10	04/09/2018 14:38	BL00		1.50	2.75	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **180918-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GC/MS												
Butyl benzyl phthalate	01	65-66-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Chlorobenzene	01	91-08-6	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.75	2.75	1	ug/L	SKJ
Chrysene	01	218-01-8	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dibenz	01	2003-38-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Dibenz (p,h) anthracene	01	62-70-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dibenzofuran	01	133-44-8	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	6.68	1	ug/L	SKJ
Dibutyl phthalate	01	84-96-2	8190.710	04/09/2018 09:10	04/09/2018 14:38	1.57	J	1.50	11.0	1	ug/L	SKJ
Dimethylacetate	01	62-81-5	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Dimethyl phthalate	01	133-11-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Dioctyl phthalate	01	84-74-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Di-n-octyl phthalate	01	107-64-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Diphenylamine	01	122-38-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Drochlor	01	298-04-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.75	2.75	1	ug/L	SKJ
Ethyl methacrylate	01	63-05-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	23.0	1	ug/L	SKJ
Ethyl acetate	01	54-64-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Fluorol	01	52-65-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
Fluoranthene	01	208-44-0	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Fluorene	01	66-73-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachlorobenzene	01	118-74-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		0.05	0.05	1	ug/L	SKJ
Hexachlorobutadiene	01	67-68-3	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachlorocyclopentadiene	01	77-47-4	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachloroethane	01	67-73-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Hexachloropropene	01	188-71-7	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
Indene (1,2,3-cd) pyrene	01	185-38-1	8190.710	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ

Certificate of Analysis

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 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Acetone	01	66-07-8	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Acrylonitrile	01	78-06-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Benzonitrile	01	120-66-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
Biphenyl	01	143-00-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00	C	2.20	2.75	1	ug/L	SKJ
o-Cresol	01	6999-04-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methylcyclohexane	01	81-80-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methyl methanesulfonate	01	66-27-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Methyl parathion	01	298-00-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
Naphthalene	01	91-20-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
Nonane	01	68-98-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
n-Propylcyclohexane	01	65-18-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.75	2.75	1	ug/L	SKJ
n-Propylcyclopentane	01	62-75-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propyl-n-butylamine	01	924-10-3	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propyl-n-propylamine	01	621-64-7	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propylcyclohexylamine	01	84-26-0	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
n-Propylcyclohexylmethanamine	01	10305-95-8	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
n-Propylamine	01	100-75-4	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n-Propylmethanamine	01	630-00-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	01	126-68-1	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-97-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
o-Cresol	01	1210-77-2	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKJ
o-Cresol	01	95-48-7	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKJ
o-Toluidine	01	95-53-4	EPA8210	04/09/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKJ

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1806118-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	66-11-7	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	2.75	1	ug/L	SKS
p-Chloro-m-xcel	01	64-66-7	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Pentachlorobenzene	01	608-03-5	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Pentachloronitrobenzene (quintone)	01	82-09-8	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	1.50	1	ug/L	SKS
Phenanthrene	01	62-44-2	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenanthrene	01	65-01-8	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenol	01	106-96-2	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		1.50	11.0	1	ug/L	SKS
Phenol	01	206-02-2	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKS
p-Phenylenediamine	01	106-90-2	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00	C	2.20	11.0	1	ug/L	SKS
Phenoxide	01	20602-2	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	11.0	1	ug/L	SKS
Pyrene	01	179-09-6	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00	C	1.50	11.0	1	ug/L	SKS
Selin	01	54-55-7	8262700	04/06/2018 09:10	04/09/2018 14:38	BL00		2.20	2.75	1	ug/L	SKS
Surr: 2,4,6-Trinitrophenol (Surr)	01	88-4	20-88	04/06/2018 09:10	04/09/2018 14:38							SKS
Surr: 2,4-Dinitrophenol (Surr)	01	88-3	27-87	04/06/2018 09:10	04/09/2018 14:38							SKS
Surr: 2-Nitrophenol (Surr)	01	78-4	10-57	04/06/2018 09:10	04/09/2018 14:38							SKS
Surr: Nitrobenzene-d5 (Surr)	01	78-7	10-66.8	04/06/2018 09:10	04/09/2018 14:38							SKS
Surr: Phenol-d5 (Surr)	01	92-4	5-33	04/06/2018 09:10	04/09/2018 14:38							SKS
Surr: p-Terphenyl-d14 (Surr)	01	65.7	27-133	04/06/2018 09:10	04/09/2018 14:38							SKS

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Laboratory Sample ID: **180618-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	01	12874-11-2	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.028	0.217	1	ug/L	MSM
PCB as Aroclor 1221	01	11704-25-2	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.217	0.217	1	ug/L	MSM
PCB as Aroclor 1232	01	11747-16-5	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.018	0.217	1	ug/L	MSM
PCB as Aroclor 1240	01	83489-21-8	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.048	0.217	1	ug/L	MSM
PCB as Aroclor 1248	01	72072-29-6	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.092	0.217	1	ug/L	MSM
PCB as Aroclor 1254	01	11047-66-1	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.038	0.217	1	ug/L	MSM
PCB as Aroclor 1260	01	11006-82-0	EPA8080A	04/06/2018 13:29	04/09/2018 12:59	BL00		0.037	0.217	1	ug/L	MSM
Sum PCB	01	80.0 %	30-105	04/06/2018 13:29	04/09/2018 12:59							
Sum PCMX	01	80.0 %	30-105	04/06/2018 13:29	04/09/2018 12:59							
4,4'-DDE	01	72-04-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDD	01	72-85-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDT	01	50-29-3	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
Aldrin	01	509-00-2	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
alpha-BHC	01	512-64-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC	01	212-85-7	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.005	0.054	1	ug/L	MSM
Chlordane	01	87-18-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.217	0.217	1	ug/L	MSM
dieldrin	01	512-65-9	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Dieldrin	01	60-37-1	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan I	01	505-68-4	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan II	01	33213-65-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan sulfate	01	1051-87-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Deslin	01	73-20-8	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
Endrin aldehyde	01	7421-82-4	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	01	58-88-9	EPA8081B	04/06/2018 13:29	04/09/2018 12:59	BL00		0.002	0.054	1	ug/L	MSM

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Client Sample ID: MW-18

Laboratory Sample ID: 180918-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Heptachlor	01	76-44-8	SW82618	04092018 13:29	04092018 12:59	BLDD		0.009	0.054	1	ug/L	MSM
Heptachlor epoxide	01	1024-87-8	SW82618	04092018 13:29	04092018 12:59	BLDD		0.007	0.054	1	ug/L	MSM
Methoxychlor	01	72-43-5	SW82618	04092018 13:29	04092018 12:59	BLDD		0.054	0.054	1	ug/L	MSM
Toxaphene	01	8001-35-2	SW82618	04092018 13:29	04092018 12:59	BLDD		0.217	1.09	1	ug/L	MSM
Sum: PCMX	01	99.0 %	18-112	04092018 13:29	04092018 12:59							
Sum: DGB	01	99.0 %	27-131	04092018 13:29	04092018 12:59							

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Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-76-5	SM8151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	01	95-75-1	SM8151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	01	94-75-7	SM8151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Simazine	01	88-86-7	SM8151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	01	67-89-0	SM8151A	04092018 13:31	04/17/2018 13:37	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	01	130 %	80-112	0409/2018 13:31	04/17/2018 13:37							S

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Laboratory Sample ID: 1806118-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (DOB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichlorobenzene	01	96-18-4	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chlorobenzene (DBCP)	01	96-12-8	826011	04/09/2018 13:11	04/09/2018 20:38	BLD		0.005	0.010	1	ug/L	MSM

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	01	5496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1809118-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	02	7440-38-2	800020A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.0	5.0	1	ug/L	BCV
Barium	02	7440-39-3	800010C	04/09/2018 12:30	04/09/2018 17:22	281		2.0	10.0	1	ug/L	JPV
Beryllium	02	7440-41-7	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	4.0	1	ug/L	JPV
Cadmium	02	7440-43-4	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	4.0	1	ug/L	JPV
Cobalt	02	7440-48-4	800010C	04/09/2018 12:30	04/09/2018 17:22	40.1		2.0	4.0	1	ug/L	JPV
Chromium	02	7440-47-3	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		4.0	10.0	1	ug/L	JPV
Copper	02	7440-50-9	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	10.0	1	ug/L	JPV
Mercury	02	7440-97-4	800070A	04/10/2018 08:28	04/10/2018 15:55	BL00		0.20	0.20	1	ug/L	MM
Nickel	02	7440-52-4	800010C	04/09/2018 12:30	04/09/2018 17:22	82.1		2.0	10.0	1	ug/L	JPV
Lead	02	7439-92-1	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		5.0	10.0	1	ug/L	JPV
Antimony	02	7440-20-2	800020A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.00	5.00	1	ug/L	BCV
Selenium	02	7782-49-2	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-6	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		50.0	20.0	1	ug/L	JPV
Thallium	02	7440-28-6	800020A	04/09/2018 12:30	04/11/2018 12:21	BL00		1.00	5.00	1	ug/L	BCV
Zinc	02	7440-66-2	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		2.0	10.0	1	ug/L	JPV
Pb	02	7440-66-2	800010C	04/09/2018 12:30	04/09/2018 17:22	BL00		10.0	10.0	1	ug/L	JPV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	82	630-20-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethene	82	71-68-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	82	79-34-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	82	79-00-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	82	78-24-2	SW82008	04/05/2018 18:18	04/05/2018 18:18	4.18		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	82	75-70-4	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloropropene	82	503-08-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropane	82	88-18-4	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichlorobenzene	82	120-82-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	82	95-50-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	1.28		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	82	107-06-2	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.90	1.00	1	ug/L	JCW
1,2-Dichloropropane	82	78-87-5	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	82	94-73-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	82	142-88-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	82	106-46-7	SW82008	04/05/2018 18:18	04/05/2018 18:18	14.5		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	82	504-20-7	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	2.00	1	ug/L	JCW
Toluene (MIBK)	82	78-83-3	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
3-Hexanone (MIBK)	82	581-78-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	82	106-10-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	0.20	1	ug/L	JCW
Acetone	82	67-64-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		7.00	10.0	1	ug/L	JCW
Acetonitrile	82	75-05-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	10.0	1	ug/L	JCW
Acetone	82	107-02-8	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	10.0	1	ug/L	JCW
Acrylonitrile	82	107-13-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		1.70	0.20	1	ug/L	JCW
Adiponitrile	82	107-08-1	SW82008	04/05/2018 18:18	04/05/2018 18:18	BL00		0.80	1.00	1	ug/L	JCW

Certificate of Analysis

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 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	82	71-43-2	SW82608	04/05/2018 18:19	04/05/2018 18:19	1.87		0.30	1.00	1	ug/L	JDW
Bromochloromethane	82	74-97-6	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	82	75-27-4	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	0.80	1	ug/L	JDW
Bromoform	82	75-25-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	82	74-83-9	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	82	75-13-6	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	82	56-23-5	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	82	109-89-7	SW82608	04/05/2018 18:19	04/05/2018 18:19	12.6		0.40	1.00	1	ug/L	JDW
Chloroethane	82	78-09-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	0.77	J	0.40	1.00	1	ug/L	JDW
Chloroform	82	67-69-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	82	74-87-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	82	129-99-8	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethane	82	106-69-2	SW82608	04/05/2018 18:19	04/05/2018 18:19	4.84		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	82	10661-21-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	82	129-88-1	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	82	74-96-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	1.00	1	ug/L	JDW
Dichlorodifluoromethane	82	75-71-9	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxyacetate	82	97-83-2	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.80	8.00	1	ug/L	JDW
Ethylacetate	82	100-61-4	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	1.00	1	ug/L	JDW
Hexachlorocyclopentadiene	82	67-89-3	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.80	0.80	1	ug/L	JDW
Isomethane	82	74-88-4	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	82	78-83-1	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		18.0	80.0	1	ug/L	JDW
m,p-Xylene	82	17861-23-	SW82608	04/05/2018 18:19	04/05/2018 18:19	BLOD		0.30	2.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1806118-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	95-63-8	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	2.00	1	ug/L	JCW
Methylvinyl ketone	02	75-26-2	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	02	95-47-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
Propene	02	107-12-0	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		7.00	40.0	1	ug/L	JCW
Styrene	02	100-43-8	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	02	127-18-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
Ethene	02	100-48-2	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethene	02	100-50-5	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.40	1.00	1	ug/L	JCW
trans-1,3-Dichloropropene	02	10061-02-8	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	02	105-67-6	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethylene	02	75-01-6	SW82000	04/05/2018 18:18	04/05/2018 18:18	1.88		0.50	1.00	1	ug/L	JCW
Trifluoromethane	02	75-68-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	02	106-05-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		2.00	10.0	1	ug/L	JCW
Vinyl chloride	02	75-01-4	SW82000	04/05/2018 18:18	04/05/2018 18:18	0.77		0.50	0.50	1	ug/L	JCW
Xylenes, Total	02	1200-20-7	SW82000	04/05/2018 18:18	04/05/2018 18:18	BL00		1.00	3.00	1	ug/L	JCW
Sum: 1,2-Dichloroethane (Sum)	02	95.3 %	75-129	04/05/2018 18:18	04/05/2018 18:18							
Sum: 4-Bromofluorobenzene (Sum)	02	91.9 %	75-130	04/05/2018 18:18	04/05/2018 18:18							
Sum: Dibromofluorobenzene (Sum)	02	92.8 %	85-118	04/05/2018 18:18	04/05/2018 18:18							
Sum: Toluene-d8 (Sum)	02	93.3 %	85-130	04/05/2018 18:18	04/05/2018 18:18							

Certificate of Analysis

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-82**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GC/MS												
1,2,4,5-Tetrachlorobenzene	82	95-94-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
1,2,5-Trichlorobenzene	82	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	9.43	1	ug/L	SKS
1,3-Dichlorobenzene	82	95-95-9	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.73	2.72	1	ug/L	SKS
1,4-Naphthoquinone	82	135-19-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.11	10.9	1	ug/L	SKS
1-Naphthylene	82	124-92-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.99	10.9	1	ug/L	SKS
1,2,4,5-Tetra-chlorophenol	82	94-90-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	82	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	82	95-95-2	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
1,4-Dimethoxybenzene	82	120-83-2	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2,4-Dimethylphenol	82	108-87-8	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.84	0.84	1	ug/L	SKS
2,4-Dinitrophenol	82	81-76-6	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.54	04.3	1	ug/L	SKS
2,4-Dinitrophenol	82	121-14-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2,6-Dinitrophenol	82	87-82-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2,6-Dinitrophenol	82	806-20-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2-Acetylnaphthalene	82	75-96-3	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		3.71	3.72	1	ug/L	SKS
2-Chloronaphthalene	82	91-58-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2-Chlorophenol	82	95-57-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
2-Methylnaphthalene	82	91-07-6	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
2-Naphthylene	82	91-59-8	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
2-Nitrophenol	82	95-78-4	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
3-Nitrophenol	82	95-75-0	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS
3,7-Dinitrobenzidine	82	81-84-1	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		4.38	10.9	1	ug/L	SKS
3,7-Dimethylbenzidine	82	118-83-7	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	82	54-45-5	SW82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.88	10.9	1	ug/L	SKS

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	02	99-06-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	02	934-02-1	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	54.3	1	ug/L	SKS
4-Aminodiphenyl	02	93-87-1	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
4-Bromodiphenyl ether	02	101-85-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
4-Chlorodiphenyl ether	02	100-47-9	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
4-Dimethyldiphenyl ether	02	7006-17-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
4-Fluorodiphenyl ether	02	100-01-8	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
4-Nitrodiphenyl ether	02	100-02-7	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	54.3	1	ug/L	SKS
5-Nitrobenzene	02	99-08-8	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	02	87-87-8	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	10.9	1	ug/L	SKS
Acenaphthene	02	85-32-5	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Acenaphthylene	02	105-90-8	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Acenaphthylene	02	95-85-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		2.17	21.7	1	ug/L	SKS
Anthracene	02	130-13-7	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (a) anthracene	02	76-76-1	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-8	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		0.05	0.11	1	ug/L	SKS
Benzo (a) fluoranthene	02	100-09-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (a,h) perylene	02	181-24-2	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
Benzo (ghi) perylene	02	100-81-4	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	21.7	1	ug/L	SKS
ben (2-Chloromethyl) methane	02	111-87-1	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
ben (2-Chloromethyl) ether	02	111-44-4	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	02	106-80-1	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	10.9	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	02	117-81-7	SM82700	04/09/2018 08:10	04/09/2018 18:14	BL00		1.09	2.72	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Bnly benzyl phthalate	02	85-88-7	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Chlorobenzene	02	911-95-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00	C	2.72	2.72	1	ug/L	SKJ
Chrysene	02	218-01-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dibenz	02	2002-38-4	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Diene (p,q) anthracene	02	92-79-2	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dibenzofuran	02	133-84-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	6.43	1	ug/L	SKJ
Diethyl phthalate	02	84-66-2	8190.710	04/09/2018 09:10	04/09/2018 15:14	2.38	J	1.89	10.9	1	ug/L	SKJ
Dimethyl	02	80-81-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Dimethyl phthalate	02	133-11-3	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Dioctyl phthalate	02	84-74-2	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	10.9	1	ug/L	SKJ
Di-n-octyl phthalate	02	117-84-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Diphenylene	02	122-38-4	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	10.9	1	ug/L	SKJ
Drochlor	02	298-04-4	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00	C	2.72	2.72	1	ug/L	SKJ
Ethyl methacrylate	02	81-01-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	21.7	1	ug/L	SKJ
Ethyl acetate	02	78-14-3	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Fluorol	02	52-65-7	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.72	2.72	1	ug/L	SKJ
Fluoranthene	02	218-44-8	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Fluorene	02	86-73-7	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachlorobenzene	02	118-74-1	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		0.05	0.05	1	ug/L	SKJ
Hexachlorobiphenyl	02	87-68-3	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachlorocyclopentadiene	02	77-47-4	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachloroethane	02	87-73-1	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ
Hexachloropropene	02	1585-71-7	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		2.17	2.72	1	ug/L	SKJ
Indene (1,2,3-nd) pyrene	02	185-38-1	8190.710	04/09/2018 09:10	04/09/2018 15:14	BL00		1.89	10.9	1	ug/L	SKJ

Certificate of Analysis

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 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Acetone	02	66-09-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	02	78-06-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Benzofuran	02	120-66-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
Biphenyl	02	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00	C	2.17	2.72	1	ug/L	SKJ
o-Cresol	02	95-49-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Methylcyclohexane	02	91-90-9	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	02	66-27-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Methyl paraffin	02	206-00-0	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKJ
Naphthalene	02	81-20-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
Nonane	02	68-98-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylnonylamine	02	65-16-6	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.72	2.72	1	ug/L	SKJ
n-Propyloctylamine	02	62-75-6	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
n-Propyl-n-butylamine	02	924-18-3	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
n-Propyl-n-propylamine	02	627-64-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
n-Propylmethylamine	02	64-20-6	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylmethylmethanamine	02	10005-95-8	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKJ
n-Propylamine	02	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
n-Propylmethanamine	02	930-05-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	02	126-68-1	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	02	267-67-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	10.0	1	ug/L	SKJ
o-Cresol	02	1215-77-2	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.25	10.0	1	ug/L	SKJ
o-Cresol	02	95-49-7	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		1.00	10.0	1	ug/L	SKJ
o-Toluidine	02	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 18:14	BL00		2.17	2.72	1	ug/L	SKJ

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809118-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	02	89-11-7	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	2.72	1	ug/L	SKJ
p-Chloro-m-xcel	02	64-56-7	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	02	604-85-5	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	10.0	1	ug/L	SKJ
Pentachloronitrobenzene (quintozene)	02	82-69-8	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	02	92-44-2	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	02	89-01-9	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	02	106-95-2	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	02	206-02-2	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	2.72	1	ug/L	SKJ
p-Fluorophenanthrene	02	100-50-2	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00	C	2.57	10.0	1	ug/L	SKJ
Fluorene	02	206-02-2	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	10.0	1	ug/L	SKJ
Pyrene	02	179-09-0	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00	C	1.00	10.0	1	ug/L	SKJ
Sulfone	02	74-55-7	SM82700	04/06/2018 09:10	04/09/2018 16:14	BL00		2.57	2.72	1	ug/L	SKJ
Surr: 1,4-Dibromobenzene (Surr)	02	82.9 %	20-88	04/06/2018 09:10	04/09/2018 16:14							
Surr: 2-Fluorobiphenyl (Surr)	02	87.7 %	23-67	04/06/2018 09:10	04/09/2018 16:14							
Surr: 2-Fluorophenol (Surr)	02	53.4 %	19-32	04/06/2018 09:10	04/09/2018 16:14							
Surr: Nitrobenzene-d5 (Surr)	02	92.5 %	10-66.8	04/06/2018 09:10	04/09/2018 16:14							
Surr: Phenanthrene (Surr)	02	74.9 %	5-33	04/06/2018 09:10	04/09/2018 16:14							
Surr: p-Terphenyl-d14 (Surr)	02	61.7 %	27-133	04/06/2018 09:10	04/09/2018 16:14							

Certificate of Analysis

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1806118-82**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	82	12874-11-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.209	0.200	1	ug/L	HLM
PCB as Aroclor 1221	82	11104-26-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.209	0.200	1	ug/L	HLM
PCB as Aroclor 1232	82	11147-14-5	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.018	0.200	1	ug/L	HLM
PCB as Aroclor 1240	82	83485-21-8	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.048	0.200	1	ug/L	HLM
PCB as Aroclor 1248	82	72672-29-6	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.090	0.200	1	ug/L	HLM
PCB as Aroclor 1254	82	11397-89-7	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.038	0.200	1	ug/L	HLM
PCB as Aroclor 1260	82	11006-82-0	EPA8082A	04/06/2018 13:29	04/09/2018 14:24	BL00		0.037	0.200	1	ug/L	HLM
Sum PCB	82	492 %	30-105	04/06/2018 13:29	04/09/2018 14:24							
Sum PCBs	82	50.0 %	30-100	04/06/2018 13:29	04/09/2018 14:24							
4,4'-DDE	82	72-64-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
4,4'-DDD	82	72-88-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
4,4'-DDT	82	50-29-3	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Aldrin	82	509-00-2	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
alpha-BHC	82	519-34-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
gamma-BHC	82	212-88-7	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Chlordane	82	87-14-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.200	0.200	1	ug/L	HLM
dieldrin	82	519-85-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Dieldrin	82	60-27-1	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Endosulfan I	82	509-88-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Endosulfan II	82	33213-85-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Endosulfan sulfate	82	1051-87-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
Deslin	82	73-20-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM
Deslin isothyle	82	7427-82-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.002	0.005	1	ug/L	HLM
gamma-BHC (Lindane)	82	58-88-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:24	BL00		0.005	0.005	1	ug/L	HLM

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-28

Laboratory Sample ID: 1806118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Dieldrin	02	75-44-8	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BL00		0.009	0.035	1	ug/L	MSM
Heptachlor epoxide	02	1024-57-5	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BL00		0.002	0.005	1	ug/L	MSM
Methoxychlor	02	73-43-5	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BL00		0.054	0.023	1	ug/L	MSM
Toxaphene	02	8001-35-2	SW8261B	04/09/2018 13:29	04/09/2018 14:24	BL00		0.230	1.10	1	ug/L	MSM
Sum: PCMX	02	99.0 %	19-112	04/09/2018 13:29	04/09/2018 14:24							
Sum: DGB	02	50.0 %	27-131	04/09/2018 13:29	04/09/2018 14:24							

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Laboratory Sample ID: 1809118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	02	95-79-5	826151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-79-1	826151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	02	94-75-7	826151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Simazine	02	88-89-7	826151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	02	87-86-0	826151A	04092018 13:21	04/17/2018 14:20	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	02	90.0 %	80-112	0409/2018 13:21	04/17/2018 14:20							

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Client Sample ID: MW-28

Laboratory Sample ID: 1806118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (DOB)	82	106-93-4	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	82	96-18-4	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	82	96-12-8	826011	04/09/2018 13:11	04/09/2018 21:37	BLD		0.005	0.010	1	ug/L	MSM

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-29

Laboratory Sample ID: 1806118-82

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	82	61-12-6	SW9012B	04/11/2018 12:57	04/11/2018 12:57	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	82	15496-24-8	SW9015	04/09/2018 11:02	04/09/2018 11:05	BL00		0.80	1.00	1	mg/L	DLF

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		5.0	10.0	1	ug/L	JPV
Antimony	02	7440-36-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.0	5.0	1	ug/L	BCV
Barium	03	7440-39-2	8000/7000	04/09/2018 12:30	04/09/2018 17:24	214		3.0	10.0	1	ug/L	JPV
Beryllium	05	7440-41-7	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	4.0	1	ug/L	JPV
Cadmium	06	7440-49-4	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	08	7440-48-4	7000/5000	04/09/2018 12:30	04/09/2018 17:24	89.6		3.0	4.0	1	ug/L	JPV
Chromium	09	7440-47-2	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		4.0	10.0	1	ug/L	JPV
Copper	07	7440-50-9	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	10.0	1	ug/L	JPV
Mercury	04	7440-01-6	7074/714	04/10/2018 08:28	04/10/2018 15:58	BL00		0.30	0.30	1	ug/L	MM
Nickel	00	7440-02-0	8000/7000	04/09/2018 12:30	04/09/2018 17:24	6.4	J	2.0	10.0	1	ug/L	JPV
Lead	03	7439-92-1	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		6.0	10.0	1	ug/L	JPV
Arsenic	00	7440-38-2	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.00	5.00	1	ug/L	BCV
Selenium	00	7782-49-2	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		40.0	50.0	1	ug/L	JPV
Tin	02	7440-31-6	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		50.0	20.0	1	ug/L	JPV
Thallium	04	7440-28-0	8000/7000A	04/09/2018 12:30	04/11/2018 12:39	BL00		1.00	5.00	1	ug/L	BCV
Vanadium	01	7440-62-2	8000/7000	04/09/2018 12:30	04/09/2018 17:24	BL00		3.0	10.0	1	ug/L	JPV
Zinc	01	7440-66-6	8000/7000	04/09/2018 12:30	04/09/2018 17:24	50.1		10.0	10.0	1	ug/L	JPV

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.10	0.40	1	ug/L	JCW
1,1,1-Trichloroethene	02	71-69-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.70	1.00	1	ug/L	JCW
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	0.40	1	ug/L	JCW
1,1,2-Trichloroethane	04	79-00-5	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,1-Dichloroethane	05	78-34-3	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
1,1-Dichloroethylene	06	76-33-4	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
1,1-Dichloropropene	07	563-09-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,2,3-Trichloropropane	08	96-18-4	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
1,2,4-Trichloropropane	09	129-82-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichlorobenzene	00	95-50-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,2-Dichloroethane	01	107-06-2	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,2-Dichloropropane	02	78-27-5	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
1,3-Dichlorobenzene	03	541-73-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,3-Dichloropropane	04	142-29-9	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
1,4-Dichlorobenzene	05	106-46-7	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
2,2-Dichloropropane	06	584-05-7	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	2.00	1	ug/L	JCW
2-Hexanone (MIBK)	07	78-91-3	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.80	3.00	1	ug/L	JCW
2-Heptanone (MIBK)	08	521-78-6	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	3.00	1	ug/L	JCW
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	3.00	1	ug/L	JCW
Acetone	00	67-64-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		7.80	10.0	1	ug/L	JCW
Acetonitrile	01	75-05-8	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	10.0	1	ug/L	JCW
Acrylonitrile	02	107-03-8	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.10	10.0	1	ug/L	JCW
Acrylonitrile	03	107-13-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		1.70	5.00	1	ug/L	JCW
Allyl alcohol	04	107-18-1	SW82608	04/05/2018 18:45	04/05/2018 18:48	BL00		0.80	1.00	1	ug/L	JCW

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	01	71-43-2	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Bromochloromethane	02	74-97-5	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Bromodichloromethane	03	75-27-4	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	0.50	1	ug/L	JCW
Bromofuran	04	75-28-3	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Bromomethane	05	74-99-9	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Carbon disulfide	06	75-18-0	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		1.00	10.0	1	ug/L	JCW
Carbon tetrachloride	07	95-23-5	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chlorobenzene	08	108-90-7	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chloroethane	09	78-09-3	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Chloroform	10	67-68-3	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.60	0.80	1	ug/L	JCW
Chloromethane	11	74-87-5	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Chloroprene	12	105-95-6	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.80	5.00	1	ug/L	JCW
cis-1,2-Dichloroethylene	13	156-59-2	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00	J	0.40	1.00	1	ug/L	JCW
cis-1,3-Dichloropropene	14	10061-01-0	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Dibromochloromethane	15	13448-1	SW82000	04/05/2018 18:40	04/05/2018 18:48	FL00		0.30	0.50	1	ug/L	JCW
Dibromomethane	16	74-95-3	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	1.00	1	ug/L	JCW
Dichlorodifluoromethane	17	75-71-8	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		1.80	1.00	1	ug/L	JCW
Ethyl methacrylate	18	97-63-2	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	3.00	1	ug/L	JCW
Ethylbenzene	19	100-41-4	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Hexachlorocyclopentadiene	20	67-66-3	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.80	0.80	1	ug/L	JCW
Iodomethane	21	74-89-4	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		1.70	10.0	1	ug/L	JCW
Isobutyl Alcohol	22	78-25-1	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		18.0	40.0	1	ug/L	JCW
m,p-Xylenes	23	119601-73	SW82000	04/05/2018 18:40	04/05/2018 18:48	BL00		0.30	2.00	1	ug/L	JCW

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
Methyl methacrylate	02	95-63-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	2.00	1	ug/L	JCW
Methylene chloride	03	75-29-2	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		2.00	4.00	1	ug/L	JCW
o-Xylene	05	95-47-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
Propylene	07	107-12-0	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		7.00	40.0	1	ug/L	JCW
Styrene	08	100-43-8	SW826008	04/05/2018 18:47	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Tetrahydrofuran (THF)	09	127-18-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
Toluene	02	108-88-3	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloroethene	03	156-58-5	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.40	1.00	1	ug/L	JCW
trans-1,2-Dichloropropane	04	10061-02-8	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.50	1.00	1	ug/L	JCW
trans-1,4-Dichloro-2-butene	05	110-67-6	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		1.50	4.00	1	ug/L	JCW
Trichloroethene	02	75-21-5	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Trinitrofluorethane	03	75-29-4	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		0.20	1.00	1	ug/L	JCW
Vinyl acetate	03	108-05-4	SW826008	04/05/2018 18:47	04/05/2018 18:48	BL00		2.20	10.0	1	ug/L	JCW
Vinyl chloride	03	75-35-4	SW826008	04/05/2018 18:47	04/05/2018 18:48	BL00		0.20	0.50	1	ug/L	JCW
Xylenes, Total	03	1330-20-7	SW826008	04/05/2018 18:45	04/05/2018 18:48	BL00		1.00	3.00	1	ug/L	JCW
Sum: 1,2-Dichloroethene/d (Sum)	03	91.0 %	75-129	04/05/2018 18:45	04/05/2018 18:48							
Sum: 4-Bromobenzonitrile (Sum)	03	94.2 %	75-129	04/05/2018 18:45	04/05/2018 18:48							
Sum: Dibromofluoromethane (Sum)	03	91.7 %	85-119	04/05/2018 18:48	04/05/2018 18:48							
Sum: Toluene/dl (Sum)	03	98.3 %	85-130	04/05/2018 18:48	04/05/2018 18:48							

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-40**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	02	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	8.38	1	ug/L	SKS
1,3-Dichlorobenzene	03	95-95-9	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
1,4-Naphthoquinone	04	135-15-4	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
1-Naphthylamine	05	134-32-7	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.98	10.8	1	ug/L	SKS
2,3,4,5-Tetrachlorophenol	06	94-90-3	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4,5-Trichlorophenol	07	95-95-4	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	08	95-95-2	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
3,4-Dimethoxybenzene	09	120-83-2	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,4-Dimethylphenol	10	105-67-8	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		0.94	0.94	1	ug/L	SKS
2,4-Dinitrophenol	11	81-59-5	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		0.94	0.94	1	ug/L	SKS
2,6-Dinitrophenol	12	121-14-0	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,8-Dinitrophenol	13	97-85-9	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2,6-Dinitrotoluene	14	806-30-3	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Acetylnaphthalene	15	13466-3	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
2-Chloronaphthalene	16	91-58-7	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Chlorophenol	17	95-57-0	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
2-Methylnaphthalene	18	91-07-6	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
2-Naphthylamine	19	91-59-6	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	10.8	1	ug/L	SKS
2-Nitrobenzene	20	95-78-4	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.15	21.5	1	ug/L	SKS
2-Nitrophenol	21	95-75-5	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS
3,3'-Dinitrobenzidine	22	81-84-1	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		4.50	10.8	1	ug/L	SKS
3,3'-Dimethylbenzidine	23	108-85-7	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		2.89	2.89	1	ug/L	SKS
3-Methyltoluene	24	95-49-5	SW82700	04/09/2018 08:10	04/09/2018 18:48	BL00		1.88	10.8	1	ug/L	SKS

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Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	01	99-05-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	21.5	1	ug/L	SKS
1,3-Dinitro-2-methylbenzene	02	934-02-1	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	53.8	1	ug/L	SKS
1-Aminotoluene	03	93-87-1	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	10.8	1	ug/L	SKS
1-Bromotoluene	04	101-85-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
1-Chlorotoluene	05	106-47-9	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	10.8	1	ug/L	SKS
1,4-Dimethylbenzene	06	106-11-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
1-Pyrenebutane	07	100-01-8	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	21.5	1	ug/L	SKS
1-Naphthalene	08	100-02-7	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	53.8	1	ug/L	SKS
1-Methyl-2-naphthol	09	89-85-8	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	10.8	1	ug/L	SKS
1,1-Dimethylbenzene (o-xylene)	10	81-87-8	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	10.8	1	ug/L	SKS
Acenaphthene	11	81-32-5	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Acenaphthylene	12	105-90-8	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Acenaphthone	13	85-85-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		2.15	21.5	1	ug/L	SKS
Anthracene	14	130-13-7	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Benz[a]anthracene	15	194-04-1	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		0.65	0.65	1	ug/L	SKS
Benz[a]pyrene	16	50-32-8	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		0.65	0.11	1	ug/L	SKS
Benz[b]fluoranthene	17	200-99-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Benz[e]pyrene	18	181-24-2	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Benz[k]fluoranthene	19	207-08-9	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Benzyl alcohol	20	100-51-6	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	21.5	1	ug/L	SKS
Hex[2,3-Dimethyl]naphthalene	21	111-91-1	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Hex[2,3-Dimethyl]naphthalene	22	111-44-4	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
1,2'-Oxide (1-chloronaphthalene)	23	106-80-1	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	10.8	1	ug/L	SKS
Hex[2-Ethyl]naphthalene	24	117-81-7	SM8270D	04/09/2018 09:10	04/09/2018 16:46	BLOD		1.88	2.88	1	ug/L	SKS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Bnly benzyl phthalate	01	65-66-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	01	910-15-6	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	01	218-01-8	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenz	01	200-38-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Diene (p,y) anthracene	01	62-70-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	01	131-44-8	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	6.00	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dimethyl	01	65-61-5	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	01	121-11-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Di-n-butyl phthalate	01	88-14-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Dibenzyltolene	01	121-35-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKS
Dibutyl	01	206-34-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methylhexanoate	01	61-00-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	21.0	1	ug/L	SKS
Ethyl pentanoate	01	76-16-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Fluorphen	01	51-60-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Fluorenone	01	200-44-0	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	01	86-73-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	01	87-68-3	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclohexadiene	01	71-47-4	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobutene	01	67-73-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	01	1655-71-7	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKS
Indene (1,2,3-cd) system	01	183-38-1	SM82700	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1806118-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	01	60-02-6	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	01	78-06-1	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	01	126-98-1	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
Alkane	01	143-00-0	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00	C	2.50	2.00	1	ug/L	SKJ
Amphetamine	01	99-09-9	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methamphetamine	01	81-09-9	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	01	60-37-3	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	01	298-00-0	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
Naphthalene	01	81-20-3	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Nitrobenzene	01	98-98-3	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodiphenylamine	01	91-19-8	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
n-Nitrosodimethylaniline	01	62-75-6	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	01	924-18-3	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodipropylamine	01	621-64-7	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosodiphenylamine	01	84-20-6	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
n-Nitrosodiphenylmethanamine	01	10005-95-8	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
n-Nitrosopiperidine	01	100-75-4	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n-Nitrosopyrrolidine	01	930-00-2	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	01	126-68-1	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-87-2	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	10.0	1	ug/L	SKJ
Amphetamine	01	1215-77-2	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
n-Cresol	01	95-49-7	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
p-Toluene	01	95-53-4	SM8270D	04/09/2018 09:10	04/09/2018 16:48	BL00		2.50	2.00	1	ug/L	SKJ

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **180918-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	66-11-7	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcel	02	69-66-7	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	03	608-03-1	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
Pentachloroantibenzene (quintolene)	05	82-69-8	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	04	62-44-2	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	07	69-01-6	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	08	106-96-1	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		1.00	10.0	1	ug/L	SKJ
Fluorol	02	258-02-1	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	09	108-90-1	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00	C	2.00	10.0	1	ug/L	SKJ
Fluorene	00	23960-54-8	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	10.0	1	ug/L	SKJ
Pyrene	00	129-00-0	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00	C	1.00	10.0	1	ug/L	SKJ
Selvol	02	74-55-7	8262700	04/06/2018 09:10	04/09/2018 16:48	BL00		2.00	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	00	77-47-3	20-88	04/06/2018 09:10	04/09/2018 16:48							
Surr: 2-Fluorobiphenyl (Surr)	00	67-61-4	23-87	04/06/2018 09:10	04/09/2018 16:48							
Surr: 2-Fluorophenol (Surr)	01	94-01-7	10-32	04/06/2018 09:10	04/09/2018 16:48							
Surr: Nitrobenzene-d5 (Surr)	01	55-21-5	10-66.8	04/06/2018 09:10	04/09/2018 16:48							
Surr: Fluorene-d10 (Surr)	02	21-71-5	5-33	04/06/2018 09:10	04/09/2018 16:48							
Surr: p-Terphenyl-d14 (Surr)	03	63-01-1	27-133	04/06/2018 09:10	04/09/2018 16:48							

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1809118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	01	12874-11-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.026	0.216	1	ug/L	MSM
PCB as Aroclor 1221	02	11104-26-2	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.216	0.216	1	ug/L	MSM
PCB as Aroclor 1232	03	11141-16-5	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.216	0.216	1	ug/L	MSM
PCB as Aroclor 1240	04	83405-21-8	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.044	0.216	1	ug/L	MSM
PCB as Aroclor 1248	05	72672-29-6	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.092	0.216	1	ug/L	MSM
PCB as Aroclor 1254	06	11047-66-1	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.038	0.216	1	ug/L	MSM
PCB as Aroclor 1260	07	11096-82-0	EPA8082A	04/06/2018 13:29	04/09/2018 14:41	BL00		0.037	0.216	1	ug/L	MSM
Sum PCB	08	50.0 %	30-105	04/06/2018 13:29	04/09/2018 14:41							
Sum PCBs	09	50.0 %	30-105	04/06/2018 13:29	04/09/2018 14:41							
4,4'-DDE	01	72-54-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDD	02	72-55-6	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDT	03	50-29-3	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
Aldrin	04	509-00-2	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
alpha-BHC	05	512-64-2	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC	06	212-69-7	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.005	0.054	1	ug/L	MSM
Chlordane	07	87-19-6	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.216	0.216	1	ug/L	MSM
dieldrin	08	512-65-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Dieldrin	09	60-27-1	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan I	01	505-66-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan II	02	30213-67-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan sulfate	03	1021-57-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Deslin	04	73-20-8	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
Deslin isothyle	05	7421-82-4	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	06	58-88-9	EPA8081B	04/06/2018 13:29	04/09/2018 14:41	BL00		0.002	0.054	1	ug/L	MSM

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1806118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW8261B	04/09/2018 13:29	04/09/2018 14:41	BL00		0.009	0.054	1	ug/L	MSM
Heptachlor epoxide	02	1024-57-8	SW8261B	04/09/2018 13:29	04/09/2018 14:41	BL00		0.007	0.054	1	ug/L	MSM
Methoxychlor	03	72-43-5	SW8261B	04/09/2018 13:29	04/09/2018 14:41	BL00		0.054	0.054	1	ug/L	MSM
Toxaphene	05	8001-35-2	SW8261B	04/09/2018 13:29	04/09/2018 14:41	BL00		0.210	1.08	1	ug/L	MSM
Sum: PCMX	07	90.0 %	18-112	04/09/2018 13:29	04/09/2018 14:41							
Sum: DGB	09	90.0 %	27-131	04/09/2018 13:29	04/09/2018 14:41							

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-1A

Laboratory Sample ID: 1809118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	01	95-76-5	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	02	95-75-1	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
2,4-D	03	94-75-7	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Simazine	05	88-85-7	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	07	87-86-0	SW8151A	04/09/2018 13:31	04/17/2018 14:48	BLDD		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	03	100 %	80-112	04/09/2018 13:31	04/17/2018 14:48							

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Client Sample ID: MW-3A

Laboratory Sample ID: 1806118-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	01	106-93-4	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	826011	04/09/2018 13:11	04/09/2018 21:58	BLGD		0.005	0.010	1	ug/L	MSM

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Client Sample ID: MW-3A

Laboratory Sample ID: 1806118-40

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	67-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	02	15498-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	04	7440-22-4	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Antimony	04	7440-36-2	800020A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.0	5.0	1	ug/L	BCV
Barium	04	7440-39-2	800010C	04/09/2018 12:30	04/09/2018 17:28	184		2.0	10.0	1	ug/L	JPV
Beryllium	04	7440-41-7	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		2.0	4.0	1	ug/L	JPV
Cadmium	04	7440-43-4	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	04	7440-48-4	800010C	04/09/2018 12:30	04/09/2018 17:28	14.4		2.0	4.0	1	ug/L	JPV
Chromium	04	7440-47-2	800010C	04/09/2018 12:30	04/09/2018 17:28	22.9		4.0	10.0	1	ug/L	JPV
Copper	04	7440-50-8	800010C	04/09/2018 12:30	04/09/2018 17:28	28.1		2.0	10.0	1	ug/L	JPV
Mercury	04	7439-97-6	800070A	04/10/2018 06:29	04/10/2018 15:48	BL00		0.20	0.20	1	ug/L	MW
Nickel	04	7440-02-0	800010C	04/09/2018 12:30	04/09/2018 17:28	24.8		2.0	10.0	1	ug/L	JPV
Lead	04	7439-92-1	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		6.0	10.0	1	ug/L	JPV
Arsenic	04	7440-33-4	800030A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.00	5.00	1	ug/L	BCV
Selenium	04	7782-49-2	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		40.0	80.0	1	ug/L	JPV
Ti	04	7440-31-5	800010C	04/09/2018 12:30	04/09/2018 17:28	BL00		20.0	20.0	1	ug/L	JPV
Thallium	04	7000-29-9	800030A	04/09/2018 12:30	04/11/2018 12:38	BL00		1.00	2.00	1	ug/L	BCV
Vanadium	04	7440-02-2	800010C	04/09/2018 12:30	04/09/2018 17:28	19.1		2.0	10.0	1	ug/L	JPV
Zinc	04	7440-66-0	800010C	04/09/2018 12:30	04/09/2018 17:28	52.5		10.0	10.0	1	ug/L	JPV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	04	830-20-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trifluoroethane	04	71-68-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrafluoroethane	04	79-34-5	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trifluoroethane	04	79-00-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	04	79-34-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	1.81		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	04	75-35-4	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropane	04	503-28-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	04	88-19-4	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	04	120-82-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	04	95-50-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	0.52	J	0.30	1.00	1	ug/L	JDW
1,2-Dichloroethane	04	107-06-2	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.90	1.00	1	ug/L	JDW
1,2-Dichloropropane	04	79-87-5	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	04	941-73-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	04	140-28-6	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/05/2018 19:11	04/05/2018 19:11	17.1		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	04	504-20-7	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	2.00	1	ug/L	JDW
1,1,1-Trichloroethane (MIBK)	04	79-34-3	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
2-Hexanone (MIBK)	04	501-75-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	04	106-10-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	04	67-64-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	04	75-05-8	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.50	10.0	1	ug/L	JDW
Acetoin	04	107-02-9	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		5.10	10.0	1	ug/L	JDW
Acrylonitrile	04	107-13-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.70	5.00	1	ug/L	JDW
Adiponitrile	04	107-06-1	SW82000	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.80	1.00	1	ug/L	JDW

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	04	71-43-2	SW82600	04/05/2018 19:11	04/05/2018 19:11	2.47		0.30	1.00	1	ug/L	JDW
Bromochloromethane	04	74-97-6	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	04	75-27-4	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	0.80	1	ug/L	JDW
Bromofluoromethane	04	75-25-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	04	74-83-9	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	04	75-13-6	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	04	56-23-5	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Chlorobenzene	04	108-90-7	SW82600	04/05/2018 19:11	04/05/2018 19:11	8.76		0.40	1.00	1	ug/L	JDW
Chloroethane	04	78-10-9	SW82600	04/05/2018 19:11	04/05/2018 19:11	1.18		0.40	1.00	1	ug/L	JDW
Chloroform	04	67-68-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.50	1	ug/L	JDW
Chloromethane	04	74-87-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
Chloroprene	04	129-99-8	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.80	5.00	1	ug/L	JDW
cis-1,2-Dichloroethane	04	106-69-2	SW82600	04/05/2018 19:11	04/05/2018 19:11	4.14		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	04	10567-01-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	04	124-68-1	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	04	74-96-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Dibromofluoromethane	04	75-71-9	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxyacetate	04	97-83-2	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	0.50	1	ug/L	JDW
Ethyl acetate	04	100-61-4	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.30	1.00	1	ug/L	JDW
Heaachlorobenzene	04	67-66-3	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	0.40	1	ug/L	JDW
Hexamethane	04	74-89-4	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.70	10.0	1	ug/L	JDW
Isobutyl Alcohol	04	78-83-1	SW82600	04/05/2018 19:11	04/05/2018 19:11	BLOD		10.0	40.0	1	ug/L	JDW
m,p-Xylene	04	17801-23-1	SW82600	04/05/2018 19:11	04/05/2018 19:11	0.87	J	0.30	2.00	1	ug/L	JDW

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	04	126-98-7	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	04	95-63-6	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	04	75-09-2	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		2.00	4.00	1	ug/L	JDW
n-Butane	04	68-47-6	SW826008	04/05/2018 19:11	04/05/2018 19:11	1.88		0.50	1.00	1	ug/L	JDW
Propene	04	107-13-0	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.00	20.0	1	ug/L	JDW
Biphenyl	04	105-67-1	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Tetrachloroethylene (PCE)	04	127-18-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	04	108-88-3	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Cis-Isomethylcyclohexane	04	188-90-9	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,3-Dichloropropene	04	1005-103-8	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	04	110-67-8	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		1.10	4.00	1	ug/L	JDW
Trihalomethylene	04	78-07-6	SW826008	04/05/2018 19:11	04/05/2018 19:11	0.59	J	0.20	1.00	1	ug/L	JDW
Trichloroethylene	04	79-07-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	04	109-05-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	04	75-01-4	SW826008	04/05/2018 19:11	04/05/2018 19:11	0.70		0.30	0.50	1	ug/L	JDW
Xylenes, Total	04	1330-20-7	SW826008	04/05/2018 19:11	04/05/2018 19:11	2.72	J	1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethane (Sum)	04	84.3 %	79-120	04/05/2018 19:11	04/05/2018 19:11							
Sum: 4-Bromobromobenzene (Sum)	04	86.7 %	79-130	04/05/2018 19:11	04/05/2018 19:11							
Sum: Dibromobromobenzene (Sum)	04	84.5 %	85-118	04/05/2018 19:11	04/05/2018 19:11							
Sum: Trihalo-03 (Sum)	04	88.4 %	85-120	04/05/2018 19:11	04/05/2018 19:11							

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
1,2,5-Trichlorobenzene	04	95-95-4	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	5.56	1	ug/L	SKS
1,3-Dichlorobenzene	04	95-95-5	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
1,4-Naphthoquinone	04	135-19-4	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
1-Naphthylamine	04	124-92-7	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
1,2,4,5-Tetrahydroxybenzene	04	88-90-3	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	04	95-95-4	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4,6-Trichlorophenol	04	95-95-2	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	04	123-63-2	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,4-Dimethylphenol	04	105-67-8	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dichlorophenol	04	91-26-6	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		0.88	0.88	1	ug/L	SKS
2,4-Dinitrophenol	04	121-14-2	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,6-Dinitrophenol	04	87-62-0	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,6-Dinitrophenol	04	606-20-2	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Acetylnaphthalene	04	13466-1	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
2-Chloronaphthalene	04	91-58-7	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Chlorophenol	04	95-57-0	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2-Methylnaphthalene	04	91-07-6	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
2-Naphthylamine	04	91-58-6	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
2-Nitroaniline	04	88-78-4	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	22.2	1	ug/L	SKS
2-Nitrophenol	04	88-75-5	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
3,3'-Dinitrobenzidine	04	81-94-1	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		4.44	11.1	1	ug/L	SKS
3,3'-Dimethylbenzidine	04	109-83-7	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
3-Methylcholanthrene	04	54-43-5	8193.710	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	04	94-09-2	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	04	934-02-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	99.8	1	ug/L	SKS
4-Acetylphenyl	04	90-07-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
4-Bromophenyl phenyl ether	04	101-85-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
4-Chlorophenyl	04	104-07-9	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
4-Chlorophenyl phenyl ether	04	1006-11-8	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
4-Fluorophenyl	04	100-01-8	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
4-Nonylphenol	04	100-02-7	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	55.8	1	ug/L	SKS
5-Hydroxy-2-naphthol	04	89-85-8	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	04	87-87-8	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	11.1	1	ug/L	SKS
Acenaphthene	04	81-32-5	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acenaphthylene	04	100-90-0	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acenaphthene	04	98-88-2	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		2.20	22.2	1	ug/L	SKS
Anthracene	04	120-12-7	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (a) anthracene	04	94-09-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		0.06	0.06	1	ug/L	SKS
Benzo (a) pyrene	04	50-32-6	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		0.06	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	04	200-95-2	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (g,h,i) perylene	04	181-24-2	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (k) fluoranthene	04	207-08-9	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Benzo (a) pyrene	04	100-81-4	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	22.2	1	ug/L	SKS
ben (2-Chloroethyl) sulfone	04	111-40-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
ben (2-Chloroethyl) ether	04	111-44-4	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	04	106-80-1	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
ben (2-Ethylhexyl) phthalate	04	117-81-7	SM82700	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	2.78	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	04	85-68-7	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Chlorobenzene	04	912-15-0	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00	C	2.78	2.78	1	ug/L	SKS
Chrysene	04	218-01-8	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dibenz	04	2003-38-4	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Diethyl (2,4) dichloro	04	62-70-3	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dibenzofuran	04	133-84-8	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.22	8.88	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dinitrobenzene	04	65-61-5	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Di-nonyl phthalate	04	129-71-3	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Di-n-octyl phthalate	04	88-74-3	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
Di-n-octyl phthalate	04	117-84-0	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Dibenzyltoluene	04	127-55-4	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
Dieldrin	04	208-94-4	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00	C	2.78	2.78	1	ug/L	SKS
Diethyl methylsuccinate	04	62-55-0	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	22.2	1	ug/L	SKS
Ethyl acetate	04	78-10-5	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Fluoranthene	04	53-80-7	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
Fluorene	04	206-44-0	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Fluorene	04	86-73-7	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachlorobenzene	04	118-74-1	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		0.08	0.08	1	ug/L	SKS
Hexachlorobutadiene	04	87-68-3	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachlorocyclopentadiene	04	77-47-4	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachloroethane	04	67-73-1	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Hexachloropropene	04	1888-71-7	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	04	180-38-2	SW8270D	04/09/2018 08:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1806118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	04	65-15-0	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acetone	04	78-06-1	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Acetophenone	04	130-08-1	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
Acrylonitrile	04	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00	C	2.22	2.78	1	ug/L	SKS
any-Cresols	04	9009-04-9	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Methylcyclohexane	04	81-80-0	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Methyl methanesulfonate	04	66-37-3	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Methyl parathion	04	298-00-0	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKS
Naphthalene	04	81-20-3	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
Nitrobenzene	04	88-88-3	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
n-Propylsulfonamide	04	55-18-8	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.78	2.78	1	ug/L	SKS
n-Propylsulfonamide	04	52-75-6	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
n-Propyl-n-butylamine	04	929-18-3	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
n-Propylsulfonamide	04	621-64-7	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
n-Propylsulfonamide	04	84-51-6	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
n-Propylsulfonamide	04	10995-95-8	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKS
n-Propylamine	04	100-75-4	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
n-Propylamine	04	930-05-2	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKS
n,n-Dimethyl phosphorothioate	04	126-69-1	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
n,n-Dimethyl n-2-propenyl phosphorothioate	04	297-87-3	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
any-Cresols	04	1313-77-2	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKS
o-Cresol	04	95-48-7	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKS
o-Toluidine	04	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKS

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **180618-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	04	89-11-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	2.78	1	ug/L	SKJ
p-Chloro-m-xcel	04	89-96-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Pentachlorobenzene	04	608-03-1	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKJ
Pentachloroantibenzene (quintozene)	04	82-69-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	1.11	1	ug/L	SKJ
Phenanthrene	04	92-44-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Fluorene	04	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Phthal	04	106-05-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		1.11	11.1	1	ug/L	SKJ
Phthal	04	206-02-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKJ
p-Fluorophenanthrene	04	108-80-2	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00	C	2.22	11.1	1	ug/L	SKJ
Fluorene	04	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	11.1	1	ug/L	SKJ
Pyrene	04	179-09-0	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00	C	1.11	11.1	1	ug/L	SKJ
Selene	04	84-06-7	SM82700	04/06/2018 06:10	04/09/2018 17:18	BL00		2.22	2.78	1	ug/L	SKJ
Sum: 1,4,6-Trinitrophenol (Surr)	04	82.1 %	20-88	04/06/2018 06:10	04/09/2018 17:18							
Sum: 2-Fluorobiphenyl (Surr)	04	78.2 %	23-87	04/06/2018 06:10	04/09/2018 17:18							
Sum: 2-Fluorophenol (Surr)	04	41.8 %	10-32	04/06/2018 06:10	04/09/2018 17:18							
Sum: Nitrobenzene-d5 (Surr)	04	72.8 %	10-88.8	04/06/2018 06:10	04/09/2018 17:18							
Sum: Fluorene-d10 (Surr)	04	30.8 %	5-33	04/06/2018 06:10	04/09/2018 17:18							
Surr: p-Terphenyl-d14 (Surr)	04	63.2 %	27-133	04/06/2018 06:10	04/09/2018 17:18							

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Client Sample ID: **MW-4**

Laboratory Sample ID: **1809118-84**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	04	12874-11-2	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.026	0.233	1	ug/L	HLM
PCB as Aroclor 1221	04	11904-26-2	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.026	0.233	1	ug/L	HLM
PCB as Aroclor 1232	04	11947-16-5	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.017	0.233	1	ug/L	HLM
PCB as Aroclor 1240	04	83889-21-9	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.048	0.233	1	ug/L	HLM
PCB as Aroclor 1248	04	72072-29-9	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.060	0.233	1	ug/L	HLM
PCB as Aroclor 1254	04	11997-69-7	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.038	0.233	1	ug/L	HLM
PCB as Aroclor 1260	04	11006-82-0	SW8000A	04/10/2018 09:15	04/10/2018 19:23	BL00		0.038	0.233	1	ug/L	HLM
Sum PCB	04	50.0 %	35-605	04/10/2018 09:17	04/10/2018 19:23							
Sum PCBs	04	45.0 %	35-605	04/10/2018 09:17	04/10/2018 19:23							
4,4'-DDE	04	72-04-8	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	HLM
4,4'-DDD	04	72-85-9	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	HLM
4,4'-DDT	04	50-29-3	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.009	0.064	1	ug/L	HLM
Aldrin	04	509-00-7	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.009	0.059	1	ug/L	HLM
alpha-BHC	04	519-84-0	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.005	0.055	1	ug/L	HLM
gamma-BHC	04	212-88-7	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.008	0.058	1	ug/L	HLM
Chlordane	04	97-19-9	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.003	0.033	1	ug/L	HLM
dieldrin	04	519-85-9	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.002	0.054	1	ug/L	HLM
Dieldrin	04	60-57-1	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.003	0.054	1	ug/L	HLM
Endosulfan I	04	505-68-4	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.002	0.054	1	ug/L	HLM
Endosulfan II	04	33213-65-9	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.003	0.054	1	ug/L	HLM
Endosulfan sulfate	04	1031-87-8	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.002	0.054	1	ug/L	HLM
Endrin	04	73-20-8	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.003	0.054	1	ug/L	HLM
Endrin aldehyde	04	7427-85-4	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.002	0.054	1	ug/L	HLM
gamma-BHC (Lindane)	04	58-89-9	SW8001B	04/10/2018 09:15	04/10/2018 19:23	BL00		0.003	0.054	1	ug/L	HLM

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Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	04	76-44-8	SM8281B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.009	0.004	1	ug/L	MSM
Heptachlor epoxide	04	1024-87-8	SM8281B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.007	0.003	1	ug/L	MSM
Methoxychlor	04	72-43-5	SM8281B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.004	0.002	1	ug/L	MSM
Toxaphene	04	8001-35-2	SM8281B	04/10/2018 09:17	04/10/2018 19:23	BL00		0.202	0.11	1	ug/L	MSM
Sum: PCMX	04	19.0 %	12-112	04/10/2018 09:17	04/10/2018 19:23							
Sum: DCB	04	40.0 %	27-131	04/10/2018 09:17	04/10/2018 19:23							

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Laboratory Sample ID: 1809118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	95-79-5	SW8151A	04092018 13:31	04/17/2018 15:08	BLDD		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	04	95-79-1	SW8151A	04092018 13:31	04/17/2018 15:08	BLDD		0.100	0.500	1	ug/L	SKB
2,4-D	04	94-75-7	SW8151A	04092018 13:31	04/17/2018 15:08	BLDD		0.100	0.500	1	ug/L	SKB
Simazine	04	88-89-7	SW8151A	04092018 13:31	04/17/2018 15:08	BLDD		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	04	67-89-0	SW8151A	04092018 13:31	04/17/2018 15:08	BLDD		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	04	90.0 %	80-112	04092018 13:31	04/17/2018 15:08							

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Client Sample ID: MW-4

Laboratory Sample ID: 1806118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromoethane (DEB)	04	106-93-4	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	04	96-18-4	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	826011	04/09/2018 13:15	04/09/2018 22:18	BLD		0.005	0.010	1	ug/L	MSM

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Client Sample ID: MW-4

Laboratory Sample ID: 1809118-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	67-12-5	SW9012B	04/11/2018 13:00	04/11/2018 13:00	BL00	C	0.01	0.01	1	mg/L	BBP
Sulfide	04	15498-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 80001700 Series Methods												
Silver	05	7440-22-4	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Arsenic	05	7440-38-2	800020A	04/09/2018 12:30	04/11/2018 12:42	BL00		1.0	5.0	1	ug/L	BCV
Barium	05	7440-39-3	8000170C	04/09/2018 12:30	04/09/2018 17:28	14.2		3.0	10.0	1	ug/L	JPV
Beryllium	05	7440-41-7	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	4.0	1	ug/L	JPV
Cadmium	05	7440-43-4	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		0.5	4.0	1	ug/L	JPV
Cobalt	05	7440-48-4	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	4.0	1	ug/L	JPV
Chromium	05	7440-47-3	8000170C	04/09/2018 12:30	04/09/2018 17:28	5.8	J	4.0	10.0	1	ug/L	JPV
Copper	05	7440-50-8	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	10.0	1	ug/L	JPV
Mercury	05	7440-97-4	8000171A	04/10/2018 08:28	04/10/2018 15:49	BL00		0.30	0.30	1	ug/L	MM
Manganese	05	7440-51-0	8000170C	04/09/2018 12:30	04/09/2018 17:28	4.8	J	2.0	10.0	1	ug/L	JPV
Lead	05	7439-92-1	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		5.0	10.0	1	ug/L	JPV
Antimony	05	7440-36-2	800020A	04/09/2018 12:30	04/11/2018 12:42	BL00		1.00	5.00	1	ug/L	BCV
Tellurium	05	7782-49-2	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		40.0	50.0	1	ug/L	JPV
Tin	05	7440-31-8	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		50.0	20.0	1	ug/L	JPV
Thallium	05	7440-29-0	800020A	04/09/2018 12:30	04/11/2018 12:42	BL00		1.00	5.00	1	ug/L	BCV
Zinc	05	7440-66-3	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		3.0	10.0	1	ug/L	JPV
Zen	05	7440-66-3	8000170C	04/09/2018 12:30	04/09/2018 17:28	BL00		10.0	10.0	1	ug/L	JPV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-65

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.10	0.40	1	ug/L	JDW
1,1,1-Trichloroethane	05	71-68-8	SW826000	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.70	1.00	1	ug/L	JDW
1,1,2,2-Tetrachloroethane	05	79-34-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	0.40	1	ug/L	JDW
1,1,2-Trichloroethane	05	79-00-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
1,1-Dichloroethane	05	79-34-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
1,1-Dichloroethylene	05	79-39-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
1,1-Dichloropropane	05	563-09-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,2,3-Trichloropropane	05	96-18-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
1,2,4-Trichlorobenzene	05	129-82-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
1,3-Dichlorobenzene	05	96-90-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloroethane	05	107-06-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	1.00	1	ug/L	JDW
1,2-Dichlorobenzene	05	75-27-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	541-73-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,3-Dichloropropane	05	142-29-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
1,4-Dichlorobenzene	05	106-46-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
2,2-Dichloropropane	05	694-70-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	2.00	1	ug/L	JDW
2-Butanone (MIBK)	05	79-59-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
2-Pentanone (MIBK)	05	99-10-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	5.00	1	ug/L	JDW
Acetone	05	67-64-1	SW826000	04/05/2018 19:37	04/05/2018 19:37	BLOD		7.00	10.0	1	ug/L	JDW
Acetonitrile	05	79-26-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	10.0	1	ug/L	JDW
Acidum	05	107-02-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		5.00	10.0	1	ug/L	JDW
Acrylonitrile	05	107-13-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.70	5.00	1	ug/L	JDW
Allyl chloride	05	107-25-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **180518-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	05	71-43-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Bromochloromethane	05	74-97-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Bromodichloromethane	05	75-27-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.50	1	ug/L	JDW
Bromofluoromethane	05	75-25-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Bromomethane	05	74-99-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Carbon disulfide	05	75-19-0	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	10.0	1	ug/L	JDW
Carbon tetrachloride	05	95-23-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroacetylene	05	100-00-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroethane	05	75-09-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Chloroform	05	67-68-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	0.50	1	ug/L	JDW
Chloroethene	05	74-87-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Chloropropane	05	105-95-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.60	5.00	1	ug/L	JDW
cis-1,2-Dichloroethene	05	156-30-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
cis-1,3-Dichloropropene	05	10011-01-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Dibromochloromethane	05	13448-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	0.50	1	ug/L	JDW
Dibromomethane	05	74-96-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Dibromofluoromethane	05	75-71-6	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	1.00	1	ug/L	JDW
Ethyl methoxybenzene	05	97-63-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.00	1	ug/L	JDW
Ethylbenzene	05	100-41-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Heptachlorobenzene	05	67-68-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.80	0.80	1	ug/L	JDW
Iodomethane	05	74-88-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.20	10.0	1	ug/L	JDW
Isobutyl Alcohol	05	78-83-1	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		18.0	60.0	1	ug/L	JDW
m,p-Xylene	05	17961-23-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	2.00	1	ug/L	JDW

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	05	126-98-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Methyl methacrylate	05	95-63-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	2.00	1	ug/L	JDW
Methylene chloride	05	75-29-2	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		2.00	4.00	1	ug/L	JDW
o-Xylene	05	95-47-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
Propylene	05	107-12-9	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		7.00	40.0	1	ug/L	JDW
Styrene	05	100-42-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Tetrafluoroethylene (TFE)	05	127-18-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
Toluene	05	108-88-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloroethylene	05	106-66-5	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.40	1.00	1	ug/L	JDW
trans-1,2-Dichloropropane	05	10661-02-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.50	1.00	1	ug/L	JDW
trans-1,4-Dichloro-2-butene	05	110-97-8	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.10	4.00	1	ug/L	JDW
Trichloroethylene	05	75-29-3	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	1.00	1	ug/L	JDW
Trinitrofluorethane	05	75-29-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.20	1.00	1	ug/L	JDW
Vinyl acetate	05	109-05-4	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		2.20	10.0	1	ug/L	JDW
Vinyl chloride	05	7541-64	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		0.30	0.50	1	ug/L	JDW
Xylenes, Total	05	1330-20-7	SW826005	04/05/2018 19:37	04/05/2018 19:37	BLOD		1.00	3.00	1	ug/L	JDW
Sum: 1,2-Dichloroethane-ol (Sum)	05	93.3 %	75-129	04/05/2018 19:37	04/05/2018 19:37							
Sum: 4-Bromobromobenzene (Sum)	05	92.8 %	75-129	04/05/2018 19:37	04/05/2018 19:37							
Sum: Dibromobromobenzene (Sum)	05	92.7 %	80-119	04/05/2018 19:37	04/05/2018 19:37							
Sum: Toluenes-ol (Sum)	05	97.0 %	85-130	04/05/2018 19:37	04/05/2018 19:37							

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GC/MS												
1,2,4,5-Tetrachlorobenzene	08	95-94-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
1,2,5-Trichlorobenzene	08	95-95-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	9.38	1	ug/L	SKS
1,3-Dichlorobenzene	08	95-95-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
1,3-Naphthoquinone	08	130-19-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
1-Naphthylene	08	124-92-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,3,4,5-Tetrachlorophenol	05	94-90-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,4,5-Trichlorophenol	05	95-95-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	05	95-95-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,4-Dichlorophenol	05	120-83-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,4-Dimethylphenol	05	105-67-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.94	0.94	1	ug/L	SKS
2,4-Dinitrophenol	05	81-76-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.94	0.94	1	ug/L	SKS
2,4-Dinitrotoluene	05	121-14-0	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,6-Dinitrophenol	05	97-65-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,6-Dinitrotoluene	05	906-30-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2-Acetylnaphthalene	05	75-96-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
2-Chloronaphthalene	05	91-58-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2-Chlorophenol	05	95-57-0	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2-Methylnaphthalene	05	91-07-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
2-Naphthylene	05	91-59-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	10.8	1	ug/L	SKS
2-Nitrobenzene	05	95-79-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
2-Nitrophenol	05	95-75-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS
2,7-Dinitrobenzidine	05	91-94-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		4.30	10.8	1	ug/L	SKS
2,7-Dimethylbenzidine	05	118-93-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.69	2.69	1	ug/L	SKS
3-Methyltoluene	05	95-49-5	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.08	10.8	1	ug/L	SKS

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1-Nitrobenzene	08	99-09-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
1,8-Dimethyl-2-methylphenol	08	934-03-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	53.8	1	ug/L	SKS
4-Aminodiphenyl	08	90-87-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
4-Bromophenyl phenyl ether	08	101-85-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
4-Chlorobenzene	08	104-47-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
4-Dichlorophenyl phenyl ether	08	1006-17-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
4-Fluorobenzene	08	100-01-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
4-Nitrophenol	08	100-02-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	53.8	1	ug/L	SKS
5-Nitrobenzotriazole	08	89-85-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	08	87-87-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	19.8	1	ug/L	SKS
Acenaphthene	08	81-10-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Acenaphthylene	08	105-90-8	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Acenaphthone	08	95-85-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.15	21.5	1	ug/L	SKS
Anthracene	08	130-13-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (a) anthracene	08	94-04-3	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.85	0.85	1	ug/L	SKS
Benzo (a) pyrene	08	50-32-6	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		0.85	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	08	105-99-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (ghi) perylene	08	181-24-2	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (k) fluoranthene	08	207-08-9	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
Benzo (a) pyrene	08	100-81-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	21.5	1	ug/L	SKS
1a (2-Chloromethyl) naphthalene	08	111-81-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
1a (2-Chloromethyl) ether	08	111-44-4	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	08	106-86-1	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	19.8	1	ug/L	SKS
1a (2-Ethylhexyl) phthalate	08	117-81-7	SW82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.88	2.88	1	ug/L	SKS

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-65**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GCMS												
Butyl benzyl phthalate	05	65-65-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Chlorobenzene	05	912-01-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKS
Chrysene	05	218-01-8	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenz	05	200-35-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Diene (p,p') anthracene	05	62-70-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	05	133-84-8	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dinitrobenzene	05	65-85-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Di-nonyl phthalate	05	125-19-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Di-n-octyl phthalate	05	84-74-2	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Di-n-octyl phthalate	05	117-84-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Dibenzofuran	05	127-35-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Dieldrin	05	208-94-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKS
Ethyl methanesulfonate	05	62-50-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Ethyl acetate	05	74-36-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Fluoranthene	05	52-69-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Fluorene	05	206-44-0	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Fluorene	05	84-73-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	05	118-74-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		0.05	0.05	1	ug/L	SKS
Hexachlorocyclopentadiene	05	67-68-3	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorocyclopentadiene	05	77-47-4	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachlorobenzene	05	67-73-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS
Hexachloropropene	05	1655-71-7	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	05	183-38-1	SM8270D	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKS

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809118-65

Parameter	Emp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	08	495-73-9	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Acetone	08	78-58-1	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Acrylonitrile	08	126-98-1	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Alkane	08	143-00-0	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00	C	2.00	2.00	1	ug/L	SKJ
any-Cresol	08	9599-04-9	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methylcyclohexane	05	81-80-9	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methyl methanesulfonate	08	66-27-3	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Methyl parathion	08	298-00-0	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
Naphthalene	08	81-20-3	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Nitrobenzene	08	88-96-3	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylbenzylamine	08	55-18-6	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n-Propylbenzylsulfonamide	08	52-75-6	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Propyl-n-butylamine	08	924-18-3	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Propyl-n-propylamine	08	627-64-7	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Propylsulfonamide	08	84-56-6	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Propylsulfonamide	08	10905-95-8	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n-Propylsulfonamide	08	100-70-4	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Propylsulfonamide	08	920-05-2	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
n,n-Diethyl phosphorothioate	08	126-68-1	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n,n-Diethyl n-2-propenyl phosphorothioate	08	297-87-2	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
any-Cresol	08	1215-77-2	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
n-Cresol	08	95-48-7	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
n-Toluene	08	95-53-4	SM82700	04/09/2018 09:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ

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Date Issued: **4/18/2018 4:05:25PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1806118-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	08	89-11-7	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcel	08	69-50-7	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Pentachlorobenzene	08	608-03-1	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Pentachloroantibenzene (quintozene)	08	82-09-8	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	08	92-44-2	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	05	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluorant	08	106-05-2	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		1.00	10.0	1	ug/L	SKJ
Fluoranthene	08	256-02-2	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	08	100-00-2	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00	C	2.00	10.0	1	ug/L	SKJ
Fluorene	05	89-01-8	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		2.00	10.0	1	ug/L	SKJ
Pyrene	05	179-09-0	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00	C	1.00	10.0	1	ug/L	SKJ
Sulfone	08	94-05-7	SM82700	04/06/2018 06:10	04/09/2018 17:51	BL00		2.00	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	05	72-03-0	20-88	04/06/2018 06:10	04/09/2018 17:51							
Surr: 2-Fluorophenyl (Surr)	05	78-11-4	27-87	04/06/2018 06:10	04/09/2018 17:51							
Surr: 2-Fluorophenol (Surr)	05	44-09-1	10-17	04/06/2018 06:10	04/09/2018 17:51							
Surr: Nitrobenzene-d5 (Surr)	05	78-08-1	10-66.0	04/06/2018 06:10	04/09/2018 17:51							
Surr: Phenanth (Surr)	05	27-09-1	5-33	04/06/2018 06:10	04/09/2018 17:51							
Surr: p-Terphenyl-d14 (Surr)	05	64-37-1	27-133	04/06/2018 06:10	04/09/2018 17:51							

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Laboratory Sample ID: **1809118-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	05	12674-11-2	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.026	0.215	1	ug/L	MSM
PCB as Aroclor 1221	05	11104-26-2	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.215	0.215	1	ug/L	MSM
PCB as Aroclor 1230	05	11141-16-5	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.215	0.215	1	ug/L	MSM
PCB as Aroclor 1240	05	83405-21-9	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.044	0.215	1	ug/L	MSM
PCB as Aroclor 1248	05	72672-29-9	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.092	0.215	1	ug/L	MSM
PCB as Aroclor 1254	05	11091-89-1	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.038	0.215	1	ug/L	MSM
PCB as Aroclor 1260	05	11096-82-0	SW8060A	04/10/2018 09:15	04/10/2018 15:41	BL00		0.037	0.215	1	ug/L	MSM
Sum PCB	05	75.0 %	35-505	04/10/2018 09:17	04/10/2018 15:41							
Sum PCBs	05	75.0 %	35-505	04/10/2018 09:17	04/10/2018 15:41							
1,1'-DDE	05	72-04-9	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDE	05	72-88-8	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
4,4'-DDD	05	90-29-3	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
Aldrin	05	509-00-2	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
gamma-BHC	05	513-34-0	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
delta-BHC	05	513-35-7	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
Chlordane	05	57-19-9	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.215	0.215	1	ug/L	MSM
delta-GHC	05	513-35-9	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
Dieldrin	05	60-57-1	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
Endosulfan I	05	505-88-4	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan II	05	50213-82-9	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.002	0.054	1	ug/L	MSM
Endosulfan sulfate	05	1021-57-8	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.002	0.054	1	ug/L	MSM
Exrin	05	73-20-8	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM
Exrin isothyle	05	7421-82-4	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.002	0.054	1	ug/L	MSM
gamma-BHC (Lindane)	05	58-89-9	SW8061B	04/10/2018 09:15	04/10/2018 15:41	BL00		0.005	0.054	1	ug/L	MSM

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Client Sample ID: MW-26

Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	05	75-44-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.000	0.004	1	ug/L	MSM
Heptachlor epoxide	05	1024-57-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.000	0.004	1	ug/L	MSM
Methoxychlor	05	72-43-5	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.004	0.004	1	ug/L	MSM
Toxaphene	05	8001-35-2	SW8261B	04/10/2018 09:17	04/10/2018 15:41	BL00		0.210	1.00	1	ug/L	MSM
Sum: PCMP	05	75.0 %	12-112	04/10/2018 09:17	04/10/2018 15:41							
Sum: DGB	05	75.0 %	27-131	04/10/2018 09:17	04/10/2018 15:41							

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	05	95-79-5	826151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
2,4,5-TP (Silvex)	05	95-73-1	826151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
2,4-D	05	94-75-7	826151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Simazine	05	88-85-7	826151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Pentachlorophenol	05	67-89-0	826151A	04092018 13:31	04/17/2018 15:24	BL00		0.100	0.500	1	ug/L	SKB
Sum: DCAA (Sum)	05	80.0 %	80-112	04092018 13:31	04/17/2018 15:24							

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Laboratory Sample ID: 1809118-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dibromobenzene (KDB)	05	106-93-4	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	05	96-18-4	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-6	826011	04/09/2018 13:11	04/09/2018 22:34	BLDG		0.005	0.010	1	ug/L	MSM

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Client Sample ID: MW-26

Laboratory Sample ID: 180418-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	61-12-6	SW9012B	04/11/2018 10:27	04/11/2018 10:27	BL00	C	0.01	0.01	1	mg/L	BP
Sulfide	05	15496-24-8	SW9015	04/09/2018 11:00	04/09/2018 11:00	BL00		0.80	1.00	1	mg/L	DLF



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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Method (Title) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BBD0194 - EPA200.2/R2.8

Blank (BBD0194-BLK1)

Prepared & Analyzed: 04/09/2018

Barium	BLOD	10.0	ug/L							
Beryllium	BLOD	4.0	ug/L							
Cadmium	BLOD	4.0	ug/L							
Chromium	BLOD	10.0	ug/L							
Cobalt	BLOD	4.0	ug/L							
Copper	BLOD	10.0	ug/L							
Lead	BLOD	10.0	ug/L							
Nickel	BLOD	10.0	ug/L							
Selenium	BLOD	10.0	ug/L							
Silver	BLOD	10.0	ug/L							
Ti	BLOD	20.0	ug/L							
Vanadium	BLOD	10.0	ug/L							
Zinc	BLOD	10.0	ug/L							

LOA (BBD0194-001)

Prepared & Analyzed: 04/09/2018

Barium	504	10.0	ug/L	500	107	60-120
Beryllium	540	4.0	ug/L	500	108	60-120
Cadmium	527	4.0	ug/L	500	105	60-120
Chromium	535	10.0	ug/L	500	107	60-120
Cobalt	542	4.0	ug/L	500	108	60-120
Copper	537	10.0	ug/L	500	106	60-120
Lead	519	10.0	ug/L	500	103	60-120
Nickel	542.4	10.0	ug/L	500	108	60-120
Selenium	525	10.0	ug/L	500	105	60-120
Silver	100	10.0	ug/L	100	100	60-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: 180214H - 17K206-2802										
LC3 (180214-01)										
Prepared & Analyzed: 04/09/2018										
Ti	98.1	20.0	ug/L	100		98.1	80-120			
Vanadium	101	10.0	ug/L	500		106	80-120			
Zn	102	10.0	ug/L	500		106	80-120			
LC3 Dup (180214-02)										
Prepared & Analyzed: 04/09/2018										
Barium	108	10.0	ug/L	500		108	80-120	0.568	20	
Beryllium	143	4.0	ug/L	500		109	80-120	0.554	20	
Calcium	135	4.0	ug/L	500		106	80-120	0.654	20	
Chromium	108	10.0	ug/L	500		108	80-120	0.627	20	
Cobalt	141	4.0	ug/L	500		106	80-120	0.125	20	
Copper	109	10.0	ug/L	500		106	80-120	0.229	20	
Lead	115	10.0	ug/L	500		103	80-120	0.268	20	
Nickel	140.2	10.0	ug/L	500		108	80-120	0.403	20	
Selenium	129	50.0	ug/L	500		104	80-120	0.677	20	
Silver	107	10.0	ug/L	100		107	80-120	1.25	20	E
Ti	94.3	20.0	ug/L	100		94.3	80-120	3.82	20	
Vanadium	103	10.0	ug/L	500		107	80-120	0.479	20	
Zn	106	10.0	ug/L	500		106	80-120	0.868	20	
Matrix Spike (180214-03)										
Source: 180214-01 Prepared & Analyzed: 04/09/2018										
Barium	104	10.0	ug/L	500	114	104	75-125			
Beryllium	142	4.0	ug/L	500	BLDG	108	75-125			
Calcium	112	4.0	ug/L	500	BLDG	102	75-125			
Chromium	109	10.0	ug/L	500	BLDG	108	75-125			
Cobalt	137	4.0	ug/L	500	111	108	75-125			
Copper	121	10.0	ug/L	500	BLDG	106	75-125			

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Matrix (Total): by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 1800194-M52

<u>Matrix Spike (1800194-M52)</u>		<u>Source: 1800194-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Lead	505	10.0	ug/L	500	BLOD	101	75-125			
Nickel	529.8	10.0	ug/L	500	8.3	106	75-125			
Selenium	515	50.0	ug/L	500	BLOD	100	75-125			
Silver	107	10.0	ug/L	100	BLOD	107	75-125			E
Tin	52.4	20.0	ug/L	100	BLOD	52.4	75-125			M
Vanadium	529	10.0	ug/L	500	BLOD	106	75-125			
Zinc	513	10.0	ug/L	500	BLOD	103	75-125			

<u>Matrix Spike (1800194-M52)</u>		<u>Source: 1800299-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Barium	623	10.0	ug/L	500	84.0	106	75-125			
Beryllium	567	4.0	ug/L	500	BLOD	113	75-125			
Cadmium	536	4.0	ug/L	500	BLOD	107	75-125			
Chromium	660	10.0	ug/L	500	BLOD	112	75-125			
Cobalt	548	4.0	ug/L	500	BLOD	110	75-125			
Copper	580	10.0	ug/L	500	12.2	114	75-125			
Lead	515	10.0	ug/L	500	BLOD	103	75-125			
Nickel	551.7	10.0	ug/L	500	BLOD	110	75-125			
Selenium	526	50.0	ug/L	500	BLOD	105	75-125			
Silver	106	10.0	ug/L	100	BLOD	106	75-125			E
Tin	51.3	20.0	ug/L	100	BLOD	51.3	75-125			M
Vanadium	507	10.0	ug/L	500	BLOD	111	75-125			
Zinc	543	10.0	ug/L	500	BLOD	106	75-125			

<u>Matrix Spike Dup (1800194-M52)</u>		<u>Source: 1800194-01</u>			<u>Prepared & Analyzed: 04/09/2018</u>					
Barium	701	10.0	ug/L	500	118	106	75-125	0.861	20	
Beryllium	548	4.0	ug/L	500	BLOD	110	75-125	1.08	20	

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Matrix (Total): by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 8000134 - 824208 2018

Matrix Spike Spig (8000134-824208)		Source: 8000134-01			Prepared & Analyzed: 04/09/2018					
Cadmium	517	4.0	ug/L	500	84.00	103	75-125	0.858	20	
Chromium	533	10.0	ug/L	500	BLOD	107	75-125	1.04	20	
Cobalt	541	4.0	ug/L	500	13.1	108	75-125	0.717	20	
Copper	539	10.0	ug/L	500	BLOD	107	75-125	1.01	20	
Lead	505	10.0	ug/L	500	BLOD	101	75-125	0.311	20	
Nickel	521.7	10.0	ug/L	500	6.3	105	75-125	0.366	20	
Selenium	486	10.0	ug/L	500	BLOD	99.2	75-125	3.77	20	
Silver	109	10.0	ug/L	100	BLOD	108	75-125	0.944	20	E
Tin	55.6	10.0	ug/L	100	BLOD	55.0	75-125	4.85	20	M
Vanadium	513	10.0	ug/L	500	BLOD	107	75-125	0.654	20	
Zinc	517	10.0	ug/L	500	BLOD	103	75-125	0.768	20	

Mat. L Spike Spig (8000134-824208)		Source: 8000134-01			Prepared & Analyzed: 04/09/2018					
Boron	541	10.0	ug/L	500	84.0	111	75-125	2.80	20	
Beryllium	578	4.0	ug/L	500	BLOD	118	75-125	2.00	20	
Barium	548	4.0	ug/L	500	BLOD	109	75-125	1.56	20	
Chromium	573	10.0	ug/L	500	BLOD	115	75-125	2.36	20	
Cobalt	553	4.0	ug/L	500	BLOD	112	75-125	0.87	20	
Copper	596	10.0	ug/L	500	13.2	117	75-125	0.79	20	
Lead	524	10.0	ug/L	500	BLOD	106	75-125	1.73	20	
Nickel	589.2	10.0	ug/L	500	BLOD	112	75-125	1.38	20	
Selenium	516	10.0	ug/L	500	BLOD	103	75-125	2.79	20	
Silver	113	10.0	ug/L	100	BLOD	113	75-125	0.80	20	E
Tin	53.2	10.0	ug/L	100	BLOD	53.3	75-125	3.85	20	M
Vanadium	572	10.0	ug/L	500	BLOD	114	75-125	2.80	20	

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Matrix (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch BBD0194 - EPA200.2-200.3										
Matrix Spike Dup (BBD0194-MSD0) Source: 1800209-01 Prepared & Analyzed: 04/09/2018										
Zinc	508	10.0	ug/L	500	BLOD	110	75-125	0.860	20	
Batch BBD0195 - EPA200.2-200.3										
Blank (BBD0195-BL01) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Thallium	BLOD	2.00	ug/L							
LCS (BBD0195-B51) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	50.7	5.00	ug/L	50.0		101	80-120			
Arsenic	49	5.0	ug/L	50.0		97.4	80-120			
Thallium	44.6	2.00	ug/L	50.0		89.3	80-120			
LCS Dup (BBD0195-B5D1) Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	50.0	5.00	ug/L	50.0		100	80-120	1.27	20	
Arsenic	48	5.0	ug/L	50.0		97.0	80-120	0.448	20	
Thallium	43.3	2.00	ug/L	50.0		86.6	80-120	3.09	20	
Matrix Spike (BBD0195-M31) Source: 1800116-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	53.9	5.00	ug/L	50.0	BLOD	108	75-125			
Arsenic	51	5.0	ug/L	50.0	BLOD	101	75-125			
Thallium	50.0	2.00	ug/L	50.0	1.80	97.7	75-125			
Matrix Spike (BBD0195-M32) Source: 1800181-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
Antimony	52.3	5.00	ug/L	50.0	BLOD	105	75-125			
Arsenic	50	5.0	ug/L	50.0	BLOD	100	75-125			
Thallium	29.7	2.00	ug/L	50.0	BLOD	79.5	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	NASD Limit	RPD	RPD Limit	Qual
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Batch BBD0219 - EPA206.8.01.4

Matrix Spike Dup (BBD0219-MS01)										
			Source: 180819-01		Prepared: 04/09/2018		Analyzed: 04/10/2018			
Antimony	54.7	5.00	ug/L	50.0	BLOD	109	75-125	1.41	20	
Arsenic	50	5.0	ug/L	50.0	BLOD	100	75-125	0.799	20	
Thallium	48.7	2.00	ug/L	50.0	1.91	97.0	75-125	0.45	20	

Matrix Spike Dup (BBD0219-MS02)										
			Source: 180819-01		Prepared: 04/09/2018		Analyzed: 04/10/2018			
Antimony	50.8	5.00	ug/L	50.0	BLOD	102	75-125	2.69	20	
Arsenic	50	5.0	ug/L	50.0	BLOD	99.3	75-125	0.652	20	
Thallium	39.7	2.00	ug/L	50.0	BLOD	79.5	75-125	0.00770	20	

Batch BBD0222 - 5W7470A

Blank (BBD0222-BLK1)										
			Prepared & Analyzed: 04/10/2018							
Mercury	BLOD	0.20	ug/L							

LCS (BBD0222-B51)										
			Prepared & Analyzed: 04/10/2018							
Mercury	2.28	0.20	ug/L	2.50		91.3	80-120			

LCS Dup (BBD0222-B5D1)										
			Prepared & Analyzed: 04/10/2018							
Mercury	2.27	0.20	ug/L	2.50		90.8	80-120	0.737	20	

Matrix Spike (BBD0222-MS1)										
			Source: 180819-01		Prepared & Analyzed: 04/10/2018					
Mercury	2.40	0.20	ug/L	2.50	BLOD	96.1	80-120			

Matrix Spike (BBD0222-MS2)										
			Source: 180819-01		Prepared & Analyzed: 04/10/2018					
Mercury	1.13	0.20	ug/L	2.50	BLOD	45.2	80-120			NS

Matrix Spike Dup (BBD0222-MS21)										
			Source: 180819-01		Prepared & Analyzed: 04/10/2018					
Mercury	2.29	0.20	ug/L	2.50	BLOD	91.7	80-120	4.68	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 8800000 - RW1436

Matrix Spike Org (8800000-88000)	Source: 1804118-01	Prepared & Analyzed: 04/10/2018								
Manganese	1.18	0.20	ug/L	2.50	85.00	47.8	80-120	4.72	20	18

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900188										
Blank (8900181-8900188)										
Prepared & Analyzed: 04/09/2018										
1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethylene	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
2,2-Dichloropropane	BL00	2.00	ug/L							
2-Butanone (MEK)	BL00	5.00	ug/L							
2-Pentanone (MIBK)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acetonitrile	BL00	10.0	ug/L							
Acetone	BL00	10.0	ug/L							
Acrylonitrile	BL00	5.00	ug/L							
Allyl chloride	BL00	1.00	ug/L							
Benzene	BL00	1.00	ug/L							

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900208										
Blank (8900181-8900181)			Prepared & Analyzed: 04/09/2018							
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromoflouride	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromomethane	BL00	5.00	ug/L							
o-1,2-Dichloromethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethyl methyl ether	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heptachlorobenzene	BL00	0.50	ug/L							
Iodomethane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methyl ether	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NREO	NREC Limit	RPD	RPD Limit	Qual
Batch #000181 - 000008										
Batch #000181-0001										
Prepared & Analyzed: 04/05/2018										
n-Heptane	81.00	1.00	ug/L							
Propene	81.00	40.0	ug/L							
Ethane	81.00	1.00	ug/L							
Tetrahydrofuran (THF)	81.00	1.00	ug/L							
Hexane	81.00	1.00	ug/L							
nona-1,2-Dichloroethane	81.00	1.00	ug/L							
nona-1,3-Dichloropropane	81.00	1.00	ug/L							
nona-1,4-Dichloro-2-butene	81.00	1.00	ug/L							
Toluene	81.00	1.00	ug/L							
Trichloroethylene	81.00	1.00	ug/L							
Vinyl acetate	81.00	10.0	ug/L							
Vepr chloride	81.00	0.50	ug/L							
Hydrazine, Total	81.00	3.00	ug/L							
Sum 1,3-Dichloropropane (Sum)	41.5		ug/L	50.0		87.1	75-130			
Sum 4-Bromochloropropane (Sum)	41.4		ug/L	50.0		82.8	75-130			
Sum Dichloroethylene (Sum)	41.8		ug/L	50.0		81.8	80-110			
Sum Hexane-80 (Sum)	40.3		ug/L	50.0		86.7	80-130			
LC8 (#000181-0001)										
Prepared & Analyzed: 04/05/2018										
1,1,1-Trichloroethane	50.8	0.4	ug/L	50.0		107	80-130			
1,1,1-Trichloroethane	47.5	1	ug/L	50.0		99.0	85-130			
1,1,2-Trichloroethane	44.7	0.4	ug/L	50.0		99.4	80-130			
1,1,2-Trichloroethane	48.8	1	ug/L	50.0		97.8	75-125			
1,1-Dichloroethane	47.3	1	ug/L	50.0		94.8	75-125			
1,1-Dichloroethane	44.7	1	ug/L	50.0		93.4	75-130			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8900181 - 8900208										
LOQ (8900181-890)										
Prepared & Analyzed 04/09/2018										
1,1-Dichloroethane	45.2	1	ug/L	50.0	50.4	90.4	75-125			
1,2-Dichloroethane	43.2	1	ug/L	50.0	50.4	90.8	75-125			
1,1,1-Trichloroethane	46.7	1	ug/L	50.0	50.5	91.0	80-125			
1,2-Dichlorobenzene	50.2	1	ug/L	50.0	50	100	75-125			
1,3-Dichlorobenzene	45.4	1	ug/L	50.0	50.8	91.6	75-125			
1,2-Dibromoethane	47.5	1	ug/L	50.0	50.1	90.2	75-125			
1,3-Dibromobenzene	51.5	1	ug/L	50.0	50	100	75-125			
1,2-Dibromopropane	46.7	1	ug/L	50.0	50.5	91.0	75-125			
1,4-Dibromobenzene	46.4	1	ug/L	50.0	50.6	91.2	75-125			
1,2-Dibromopropane	49.2	2	ug/L	50.0	50.4	90.8	75-125			
2-Butanone (MIBK)	55.5	5	ug/L	50.0	52.8	105.6	35-150			
3-Pentanone (MIBK)	54.7	5	ug/L	50.0	57.5	105.1	35-120			
4-Methyl-2-pentanone (MIBK)	56.5	5	ug/L	50.0	59.2	104.8	30-125			
Acetone	55.3	10	ug/L	50.0	58.7	106.1	40-140			
Acrylonitrile	100	5	ug/L	200	64.2	32.1	75-125			L
Benzene	47.1	1	ug/L	50.0	54.2	115.1	30-120			
Bromoethane	51.5	1	ug/L	50.0	50	100	30-120			
Bromochloromethane	51.5	0.5	ug/L	50.0	54	108	75-120			
Bromobenzene	51.1	1	ug/L	50.0	50	100	35-120			
Bromomethane	42.2	1	ug/L	50.0	54.4	129	30-140			
Carbon disulfide	45.4	10	ug/L	50.0	50.9	112.1	30-150			
Carbon tetrachloride	52.1	1	ug/L	50.0	54	104	35-140			
Chlorobenzene	45.5	1	ug/L	50.0	57.0	125.3	30-120			
Chloroethane	41.5	1	ug/L	50.0	53.0	127.7	30-120			
Chloroform	43.7	0.5	ug/L	50.0	57.4	131.4	30-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NREC	NREC Limit	RPD	RPD Limit	Qual
Batch: 1802181 - 1802188										
LO2 (1802181-181)										
Prepared & Analyzed: 04/09/2018										
Chloroethane	41.4	1	ug/L	50.0		52.8	40-120			
cis-1,2-Dichloroethylene	43.2	1	ug/L	50.0		55.5	75-120			
cis-1,3-Dichloropropene	45.4	1	ug/L	50.0		50.8	75-120			
Dibromochloromethane	61.6	0.5	ug/L	50.0		100	60-120			
Dibromomethane	45.8	1	ug/L	50.0		57.5	75-120			
Dibromofluoromethane	11.3	1	ug/L	50.0		52.7	20-150			
Ethylbenzene	55.3	1	ug/L	50.0		70.1	75-120			
Heptachlorobutadiene	54.0	0.8	ug/L	50.0		108	50-140			
m,p-Xylene	100	2	ug/L	100		100	75-120			
Isobutylene oxide	42.4	4	ug/L	50.0		54.9	50-140			
n-Butane	48.8	1	ug/L	50.0		55.5	50-120			
Styrene	51.2	1	ug/L	50.0		100	50-120			
Tetrachloroethylene (PCE)	75.8	1	ug/L	50.0		142	40-150			
Toluene	55.0	1	ug/L	50.0		700	75-120			
trans-1,2-Dichloroethylene	44.7	1	ug/L	50.0		55.5	50-140			
trans-1,3-Dichloropropene	40.2	1	ug/L	50.0		55.5	50-140			
Trichloroethylene	44.5	1	ug/L	50.0		57.1	75-120			
Trichlorofluoromethane	42.7	1	ug/L	50.0		55.5	50-140			
Vinyl chloride	45.9	0.5	ug/L	50.0		51.9	50-140			
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Sum: 1,2-Dichloroethane-ol (Sum)	46.1		ug/L	50.0		56.1	75-120			
Sum: 4-Bromobromobenzene (Sum)	48.7		ug/L	50.0		57.4	75-120			
Sum: Dibromofluoromethane (Sum)	48.2		ug/L	50.0		55.3	80-110			
Sum: Toluene-ol (Sum)	48.8		ug/L	50.0		55.1	80-120			
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Merck Spike (1802181-181)					Source: 1802181-01					Prepared & Analyzed: 04/09/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
Main: Spike (8000181-8000181)										
Source: 1804174-01 Prepared & Analyzed: 04/09/2018										
1,1,1,2-Tetrafluoroethane	48.8	0.4	ug/L	50.0	51.00	97.8	90-100			
1,1,1-Trifluoroethane	48.1	1	ug/L	50.0	51.00	98.2	90-100			
1,1,2,2-Tetrafluoroethane	44.2	0.4	ug/L	50.0	51.00	88.4	90-100			
1,1,2-Trifluoroethane	49.9	1	ug/L	50.0	51.00	99.8	75-120			
1,1-Difluoroethane	54.5	1	ug/L	50.0	5.80	91.7	75-120			
1,1-Dichloroethane	45.8	1	ug/L	50.0	51.00	91.7	75-120			
1,1-Dichloroethene	46.2	1	ug/L	50.0	51.00	92.4	75-120			
1,2,2-Trichloroethane	42.8	1	ug/L	50.0	51.00	85.6	75-120			
1,2,4-Trichlorobenzene	45.1	1	ug/L	50.0	51.00	90.2	60-120			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0	0.28	99.8	75-120			
1,2-Difluoroethane	53.8	1	ug/L	50.0	51.00	98.7	75-120			
1,2-Dichloroethane	44.4	1	ug/L	50.0	51.00	87.7	75-120			
1,3-Dichlorobenzene	51.2	1	ug/L	50.0	51.00	100	75-120			
1,3-Dichloroethene	45.7	1	ug/L	50.0	51.00	91.4	75-120			
1,4-Dichlorobenzene	54.0	1	ug/L	50.0	4.88	98.0	75-120			
2,2-Dichloropropane	44.7	2	ug/L	50.0	51.00	89.4	75-120			
2-Butanone (MEK)	31.0	0	ug/L	50.0	51.00	62.0	30-100			
2-Pentanone (MIBK)	34.8	0	ug/L	50.0	51.00	73.6	60-120			
4-Methyl-2-pentanone (MIBK)	38.3	0	ug/L	50.0	51.00	76.6	60-120			
Acetone	32.0	10	ug/L	50.0	51.00	64.0	40-140			
Acrylonitrile	189	0	ug/L	250	51.00	67.6	75-120			W
Benzene	49.7	1	ug/L	50.0	1.87	99.4	60-120			
Bromochloromethane	45.1	1	ug/L	50.0	51.00	90.2	60-120			
Bromodichloromethane	49.2	0.5	ug/L	50.0	51.00	98.4	75-120			
Bromofluoromethane	49.1	1	ug/L	50.0	51.00	98.2	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 8000181 - 8000208										
Matrix Spike (8000181-8000181)										
Source: 1808178-81 Prepared & Analyzed: 04/05/2018										
Bromomethane	29.8	1	ug/L	50.0	8.00	79.2	30-140			
Carbon disulfide	42.4	10	ug/L	50.0	8.00	84.8	30-160			
Carbon tetrachloride	53.7	1	ug/L	50.0	8.00	107	85-140			
Chloroacetylene	49.8	1	ug/L	50.0	2.89	94.0	60-120			
Chloroethane	47.4	1	ug/L	50.0	2.22	83.3	60-120			
Chloroform	42.1	0.8	ug/L	50.0	8.00	84.2	60-120			
Chloromethane	40.0	1	ug/L	50.0	0.88	78.8	60-120			
cis-1,2-Dichloroethylene	52.2	1	ug/L	50.0	9.75	84.8	70-125			
cis-1,3-Dichloropropene	42.1	1	ug/L	50.0	8.00	84.2	70-130			
Dibromochloromethane	49.8	0.2	ug/L	50.0	8.00	98.8	60-120			
Dibromomethane	45.0	1	ug/L	50.0	8.00	81.8	75-125			
Dichlorodifluoromethane	42.8	1	ug/L	50.0	8.00	83.7	30-155			
Ethylbenzene	48.9	1	ug/L	50.0	8.00	87.8	70-125			
Heptachlorobenzene	54.2	0.8	ug/L	50.0	8.00	72	30-160			
Hexafluorobenzene	55.8	2	ug/L	700	8.00	95.8	70-130			
Methylene chloride	41.3	4	ug/L	50.0	8.00	81.2	30-140			
n-Butane	47.4	1	ug/L	50.0	8.00	94.0	60-120			
Butene	47.7	1	ug/L	50.0	8.00	95.4	65-130			
Tetrachloroethylene (PCE)	70.4	1	ug/L	50.0	8.00	140	45-150			
Toluene	48.4	1	ug/L	50.0	8.00	96.8	75-120			
trans-1,2-Dichloroethylene	44.3	1	ug/L	50.0	3.80	87.7	60-140			
trans-1,3-Dichloropropene	48.0	1	ug/L	50.0	8.00	91.8	55-140			
Trichloroethylene	47.8	1	ug/L	50.0	1.23	83.3	70-120			
Trichlorofluoromethane	44.7	1	ug/L	50.0	8.00	89.3	60-140			
Vinyl chloride	46.2	0.8	ug/L	50.0	2.81	88.7	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 1802181 - 1802182

Matrix Spike (1802181 MS1)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
Sum 1,2-Dichloroethane (Sum)	45.8		ug/L	50.0		91.6	75-120			
Sum 4-Bromodichloroethane (Sum)	47.8		ug/L	50.0		95.6	75-120			
Sum Dibromodichloroethane (Sum)	47.8		ug/L	50.0		95.6	80-118			
Sum Toluene (Sum)	49.8		ug/L	50.0		99.7	90-120			

Matrix Spike One (1802181 MS2)		Source: 180218-01		Prepared & Analyzed: 04/05/2018						
1,1,1,2-Tetrafluoroethane	49.7	5.4	ug/L	50.0	BLOD	89.5	60-130	8.69	30	
1,1,1-Trichloroethane	39.6	1	ug/L	50.0	BLOD	79.2	65-130	19.4	30	
1,1,1,2-Tetrafluoroethane	41.8	6.4	ug/L	50.0	BLOD	83.6	65-130	9.70	30	
1,1,2-Trichloroethane	41.3	1	ug/L	50.0	BLOD	82.6	75-125	12.6	30	
1,1-Dichloroethane	44.2	1	ug/L	50.0	6.62	71.1	70-135	20.9	30	
1,1-Dibromodichloroethane	37.6	1	ug/L	50.0	BLOD	75.1	70-130	18.9	30	
1,1-Dibromopropene	39.0	1	ug/L	50.0	BLOD	78.1	75-135	16.9	30	
1,2,3-Trichloropropene	39.3	1	ug/L	50.0	BLOD	78.8	75-125	7.83	30	
1,2-Dibromochloroethane	48.1	1	ug/L	50.0	BLOD	96.2	65-135	4.33	30	
1,2-Dibromodichloroethane	45.8	1	ug/L	50.0	0.29	91.1	70-120	8.46	30	
1,2-Dichloroethane	31.4	1	ug/L	50.0	BLOD	61.9	70-130	21.1	30	M
1,2-Dibromopropene	38.9	1	ug/L	50.0	BLOD	78.7	75-125	13.2	30	
1,3-Dichlorobenzene	48.1	1	ug/L	50.0	BLOD	90.2	75-125	18.8	30	
1,3-Dibromopropene	38.1	1	ug/L	50.0	BLOD	76.1	75-125	15.1	30	
1,4-Dichlorobenzene	48.1	1	ug/L	50.0	4.88	96.4	75-125	11.4	30	
1,2-Dibromopropene	37.7	2	ug/L	50.0	BLOD	75.8	75-138	18.8	30	
3-Pentanone (MIX)	39.8	8	ug/L	50.0	BLOD	89.8	30-100	7.71	30	
2-Hexanone (MIX)	34.8	5	ug/L	50.0	BLOD	69.8	35-130	5.08	30	
4-Methyl-2-pentanone (MIX)	35.0	5	ug/L	50.0	BLOD	70.0	65-138	11.8	30	

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/18/2018 4:05:25PM**

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 8800181 - 8900008										
Matrix Spike Spig (8800181-8900008)										
Source: 1802178-81 Prepared & Analyzed: 04/09/2018										
Acetone	36.8	10	ug/L	50.0	84.00	73.6	40-140	91.3	30	
Acrylonitrile	121	5	ug/L	200	81.00	60.4	75-130	71.4	30	W
Benzene	42.8	1	ug/L	50.0	1.87	61.4	90-130	53.4	30	
Bromochloromethane	49.9	1	ug/L	50.0	81.00	61.0	65-120	69.2	30	
Bromodichloromethane	41.5	0.5	ug/L	50.0	81.00	62.1	75-130	68.2	30	
Bromotoluene	66.7	1	ug/L	50.0	81.00	63.4	75-130	60.0	30	
Bromonitrile	33.3	1	ug/L	50.0	81.00	66.6	20-140	17.2	30	
Carbon disulfide	34.4	10	ug/L	50.0	81.00	64.8	35-160	26.8	30	
Carbon tetrachloride	44.7	1	ug/L	50.0	81.00	66.0	65-140	58.3	30	
Chlorobenzene	45.8	1	ug/L	50.0	1.89	66.4	80-120	62.8	30	
Dibromofluoride	54.7	1	ug/L	50.0	3.23	64.6	65-135	26.0	30	
Chloroform	34.8	0.5	ug/L	50.0	81.00	66.6	65-135	58.0	30	
Dichloromethane	31.9	1	ug/L	50.0	0.89	62.6	40-120	22.8	30	
o-1,2-Dichlorobenzene	44.0	1	ug/L	50.0	6.75	65.0	75-120	17.1	30	W
o-1,2-Dichlorobenzene	35.3	1	ug/L	50.0	81.00	70.7	55-130	53.6	30	
Dibromochloromethane	42.8	0.5	ug/L	50.0	81.00	67.1	60-130	53.5	30	
Dibromomethane	56.6	1	ug/L	50.0	81.00	77.2	75-125	17.4	30	
Dibromodifluoromethane	31.3	1	ug/L	50.0	81.00	64.6	30-150	26.1	30	
Ethylbenzene	43.8	1	ug/L	50.0	81.00	67.3	75-125	51.8	30	
Heptachlorobutadiene	61.1	0.8	ug/L	50.0	81.00	120	65-140	8.26	30	
m,p-Xylenes	67.1	2	ug/L	100	81.00	67.1	75-130	9.43	30	
Methylene chloride	36.3	4	ug/L	50.0	81.00	66.3	65-140	58.4	30	
p-Xylene	42.8	1	ug/L	50.0	81.00	65.2	60-120	60.7	30	
Toluene	43.3	1	ug/L	50.0	81.00	66.6	65-130	64.1	30	
Tetrachloroethylene (PCE)	66.3	1	ug/L	50.0	81.00	120	45-150	6.70	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 1804181 - 1804182

Matrix Spike Comp (1804181-1804182)	Source: 1804181-01	Prepared & Analyzed: 04/09/2018						
Toluene	43.8	1 ug/L	50.0	BL00	87.6	75-125	11.8	30
trans-1,2-Dichloroethene	27.1	1 ug/L	50.0	0.40	73.8	80-140	17.7	30
trans-1,3-Dichloropropene	26.8	1 ug/L	50.0	BL00	79.0	55-140	15.2	30
Trichloroethylene	49.2	1 ug/L	50.0	1.33	98.4	70-120	9.39	30
Trichlorofluoromethane	35.2	1 ug/L	50.0	BL00	72.3	60-145	21.0	30
Vinyl chloride	36.7	0.5 ug/L	50.0	2.90	67.6	50-145	23.0	30
Sum: 1,2-Dichloroethane-d4 (Sum)	43.2	ug/L	50.0		86.5	70-120		
Sum: 4-Bromofluorobenzene (Sum)	46.8	ug/L	50.0		93.6	75-120		
Sum: Dibromofluoromethane (Sum)	42.9	ug/L	50.0		85.9	80-119		
Sum: Toluene-d8 (Sum)	47.3	ug/L	50.0		94.5	65-120		

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 8800114 - 8800130

Blank (8800114-8800130)	Filtered, 04/09/2018 Analyzed, 04/18/2018									
1,2,4,5-Tetraclorobenzene	BL00	10.0	ug/L							
1,3,5-Trichlorobenzene	BL00	5.00	ug/L							
1,3-Dichlorobenzene	BL00	2.50	ug/L							
1,4-Hydroquinone	BL00	10.0	ug/L							
Mesitylene	BL00	10.0	ug/L							
1,2,4,6-Tetrachlorophenoxy	BL00	10.0	ug/L							
2,4,6-Trichlorophenoxy	BL00	10.0	ug/L							
2,4,6-Trichlorophenoxy	BL00	10.0	ug/L							
2,4-Dichlorophenoxy	BL00	10.0	ug/L							
1,4-Dichlorophenoxy	BL00	5.00	ug/L							
1,4-Dichlorophenoxy	BL00	10.0	ug/L							
1,4-Dichlorophenoxy	BL00	10.0	ug/L							
2,5-Dichlorophenoxy	BL00	10.0	ug/L							
2,6-Dichlorophenoxy	BL00	10.0	ug/L							
2-Acetylaminofluorene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenoxy	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichlorobenzidine	BL00	10.0	ug/L							
2,7-Dimethylbenzidine	BL00	2.50	ug/L							
2-Methylimidazole	BL00	10.0	ug/L							
2-Nitroimidazole	BL00	20.0	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 890214 - 890215										
Blank (890214-890215) Prepared: 04/02/2018 Analyzed: 04/18/2018										
1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	10.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nitro-2-naphthol	BL00	10.0	ug/L							
1,2-Dibromobenzene (o)	BL00	10.0	ug/L							
Acenaphthene	BL00	10.0	ug/L							
Acenaphthylene	BL00	10.0	ug/L							
Acenaphthylene	BL00	10.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzo (a) anthracene	BL00	0.05	ug/L							
Benzo (a) pyrene	BL00	0.10	ug/L							
Benzo (b) fluoranthene	BL00	10.0	ug/L							
Benzo (g,h,i) perylene	BL00	10.0	ug/L							
Benzo (k) fluoranthene	BL00	10.0	ug/L							
Benzyl alcohol	BL00	10.0	ug/L							
Is (2-Chloromethyl) methylene	BL00	10.0	ug/L							
Is (2-Chloromethyl) ether	BL00	10.0	ug/L							
1,2-Dichloro (1-Phenylpropane)	BL00	10.0	ug/L							
Is (2-Ethylhexyl) phthalate	BL00	2.50	ug/L							
Butyl benzyl phthalate	BL00	10.0	ug/L							
Chlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 89001H - 89001C

Batch (89001H-89001C)	Prepared: 04/09/2018 Analyzed: 04/18/2018									
Chrysen	BL00	10.0	ug/L							
Dibenz	BL00	2.50	ug/L							
Dibenz (a,h) anthracene	BL00	10.0	ug/L							
Dibenzofuran	BL00	5.00	ug/L							
Dibutyl phthalate	BL00	10.0	ug/L							
Dioxinone	BL00	2.50	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Dinonyl phthalate	BL00	10.0	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Diphenylene	BL00	10.0	ug/L							
Dibutyl	BL00	2.50	ug/L							
Ethyl methacrylate	BL00	20.0	ug/L							
Ethyl parathion	BL00	2.50	ug/L							
Fenchone	BL00	2.50	ug/L							
Fluoranthene	BL00	10.0	ug/L							
Fluorene	BL00	10.0	ug/L							
Hexachlorobenzene	BL00	5.00	ug/L							
Hexachlorobutadiene	BL00	10.0	ug/L							
Hexachlorocyclopentadiene	BL00	10.0	ug/L							
Hexachloroethane	BL00	10.0	ug/L							
Hexachloropropene	BL00	2.50	ug/L							
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L							
Isobut	BL00	10.0	ug/L							
Isophrene	BL00	10.0	ug/L							
Isoprene	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 8900114 - 8900115										
Blank (8900114-890115) Prepared: 04/09/2018 Analyzed: 04/18/2018										
Acetone	BL00	2.50	ug/L							
m,p-Cresols	BL00	10.0	ug/L							
Methoxybenzene	BL00	10.0	ug/L							
Methyl methanesulfonate	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitroethylaniline	BL00	2.50	ug/L							
n-Nitroethoxyethylaniline	BL00	10.0	ug/L							
n-Nitroethoxy-m-toluidine	BL00	10.0	ug/L							
n-Nitroethoxy-p-toluidine	BL00	10.0	ug/L							
n-Nitroethoxyphenylamine	BL00	10.0	ug/L							
n-Nitroethoxymethylaniline	BL00	2.50	ug/L							
n-Nitropropylamine	BL00	10.0	ug/L							
n-Nitropropylbenzidine	BL00	2.50	ug/L							
o,o-Dithiol d,l-cyanetyl phosphorothioate	BL00	10.0	ug/L							
o,o-Dithiol d,l-cyanetyl phosphorothioate	BL00	10.0	ug/L							
o-m,p-Cresols	BL00	10.0	ug/L							
m-Cresol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetanilide	BL00	2.50	ug/L							
p-Chloro-m-cresol	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachloronitrobenzene (quinoline)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B000114 - B00150										
Blank (B000114-B00150)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phonol	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	67.0		ug/L	100		67.0	20-66			
Sum: 2-Fluorobiphenyl (Sum)	38.8		ug/L	50.0		77.1	23-87			
Sum: 2-Fluorophenol (Sum)	48.9		ug/L	100		48.9	10-52			
Sum: Nitrobenzene-d5 (Sum)	35.9		ug/L	50.0		71.8	10-66.5			
Sum: Phenol-d5 (Sum)	30.2		ug/L	100		30.2	5-33			
Sum: p-Tephenyl-d14 (Sum)	30.1		ug/L	50.0		60.2	27-133			
LCS (B000154-B01)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,2,4-Trichlorobenzene	35.8	10.0	ug/L	50.0		73.7	21.8-66.7			L
1,2-Dichlorobenzene	35.6	10.0	ug/L	50.0		71.2	22-60			L
1,3-Dichlorobenzene	33.2	10.0	ug/L	50.0		66.5	22-60			L
1,4-Dichlorobenzene	34.7	10.0	ug/L	50.0		69.5	13-68			L
1-Chloronaphthalene	39.9	10.0	ug/L	50.0		79.8	9-299			
2,4,6-Trichlorophenol	36.8	10.0	ug/L	50.0		73.6	50-119			
2,4-Dichlorophenol	41.1	10.0	ug/L	50.0		82.2	50-106			
2,4-Dimethylphenol	38.8	0.50	ug/L	50.0		77.1	50-119			
2,4-Dinitrophenol	48.3	50.0	ug/L	50.0		96.6	15-140			
2,4-Dinitrotoluene	45.7	10.0	ug/L	50.0		91.5	21-89			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: 8900114 - 8900115										
LC8 (8900114-891)										
Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	36.3	10.0	ug/L	50.0		79.6	15-140			
1-Chloroacetylene	36.4	10.0	ug/L	50.0		79.8	40-108			
1-Chloroethane	36.1	10.0	ug/L	50.0		76.1	15-74			L
1-Propanol	39.2	10.0	ug/L	50.0		79.4	40-110			
1,1-Dichloroethylene	40.0	10.0	ug/L	50.0		80.0	20-110			
1,1-Dimethyl-2-methoxypropane	36.8	10.0	ug/L	50.0		77.8	40-130			
4-Bromophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.4	15-110			
4-Chlorophenyl phenyl ether	42.8	10.0	ug/L	50.0		87.7	15-110			
4-Nitrophenol	21.6	10.0	ug/L	50.0		43.0	0-105			
Acenaphthene	40.3	10.0	ug/L	50.0		80.6	27.7-85.3			
Acenaphthylene	40.5	10.0	ug/L	50.0		80.9	50-105			
Acenaphthylene	35.0	10.0	ug/L	50.0		69.9	0-200			
alpha-Terpinol	43.0	2.50	ug/L	50.0		86.0	0-200			
Anthracene	45.0	10.0	ug/L	50.0		90.2	55-110			
Benzo (a) anthracene	41.0	2.00	ug/L	50.0		82.0	55-110			
Benzo (a) pyrene	39.2	0.10	ug/L	50.0		78.4	50-110			
Benzo (b) fluoranthene	42.0	10.0	ug/L	50.0		84.0	40-120			
Benzo (g,h,i) perylene	36.0	10.0	ug/L	50.0		72.0	40-120			
Benzo (k) fluoranthene	38.4	10.0	ug/L	50.0		76.8	40-120			
Is (2-Chloromethyl) methane	38.3	10.0	ug/L	50.0		76.6	40-120			
Is (2-Chloromethyl) ether	38.5	10.0	ug/L	50.0		76.9	40-120			
1,7-Dioxin (1-chloropropane)	35.2	10.0	ug/L	50.0		70.3	40-120			
Is (2-Ethylhexyl) phthalate	34.0	2.50	ug/L	50.0		67.9	40-120			
Butyl benzyl phthalate	37.1	10.0	ug/L	50.0		74.2	40-110			
Carbazole	44.4	2.50	ug/L	50.0		88.8	0-200			

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 890014H - 890015C										
LOQ (890014-891)										
Prepared: 04/02/2018 Analyzed: 04/09/2018										
Chrysene	29.3	10.0	ug/L	50.0		79.6	55-110			
Dibenz (a,h) anthracene	24.0	10.0	ug/L	50.0		79.1	40-120			
Dibutyl phthalate	41.1	10.0	ug/L	50.0		82.2	40-120			
Dioctyl phthalate	24.9	10.0	ug/L	50.0		77.0	20-120			
Dioctyl phthalate	44.5	10.0	ug/L	50.0		89.0	55-110			
Di-n-octyl phthalate	44.4	10.0	ug/L	50.0		88.7	20-120			
Fluoranthene	45.6	10.0	ug/L	50.0		91.2	50-110			
Fluorene	42.2	10.0	ug/L	50.0		84.4	50-110			
Hexachlorobenzene	49.8	5.00	ug/L	50.0		80.7	25-120			
Hexachlorocyclopentadiene	43.7	10.0	ug/L	50.0		87.4	20-120			
Hexachlorocyclopentadiene	24.3	10.0	ug/L	50.0		48.6	20-120			
Hexachloroethane	34.9	10.0	ug/L	50.0		69.8	20-120			
Indeno (1,2,3-cd) pyrene	30.1	10.0	ug/L	50.0		79.3	40-120			
Isophthalate	33.0	10.0	ug/L	50.0		67.0	10-110			
Naphthalene	28.2	10.0	ug/L	50.0		79.6	40-100			
Nitrobenzene	33.4	10.0	ug/L	50.0		78.7	40-100			
m-Nitrodimethylaniline	27.1	10.0	ug/L	50.0		54.2	20-110			
m-Nitrodi-n-propylaniline	24.0	10.0	ug/L	50.0		72.1	10-87			
m-Nitrodiphenylamine	34.4	10.0	ug/L	50.0		68.8	10-87			
p-Chloro-m-cresol	41.5	10.0	ug/L	50.0		83.0	10-91			
Phenyl benzenesulfonate	40.4	20.0	ug/L	50.0		80.8	20-100			
Phenanthrene	39.0	10.0	ug/L	50.0		78.1	50-110			
Phenol	19.9	10.0	ug/L	50.0		39.8	0-100			
Pyrene	24.0	10.0	ug/L	50.0		48.0	27-110			
Pyridine	24.8	10.0	ug/L	50.0		49.6	0-200			

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B0001H - B0005C										
LO3 (B0001H-B0005C) Prepared: 04/05/2018 Analyzed: 04/09/2018										
Sum 2,4,6-Trichlorophenol (Sum)	81.8		ug/L	100		81.8	20-80			
Sum 2-Fluorophenyl (Sum)	41.8		ug/L	50.0		41.7	20-80			
Sum 3-Fluorophenyl (Sum)	58.8		ug/L	100		58.8	10-50			S
Sum Nitrobenzene-D3 (Sum)	41.2		ug/L	20.0		42.9	10-90.0			
Sum Phenol-D5 (Sum)	37.7		ug/L	100		37.7	5-35			S
Sum p-Nitrophenyl-D4 (Sum)	54.3		ug/L	50.0		54.3	27-133			
Matrix Spike (B0001H-B0005C) Source: B0001H-B0005C Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1-Dichloroethane	43.8	10.8	ug/L	54.3	BLOD	78.7	21.8-66.7			M
1,2-Dichloroethane	41.7	10.8	ug/L	54.3	BLOD	76.7	22-60			M
1,3-Dichloroethane	56.0	10.8	ug/L	54.3	BLOD	71.6	22-60			M
1,1-Dibromoethane	45.8	10.8	ug/L	54.3	2.40	76.3	22-60			M
1-Chloronaphthalene	45.8	10.8	ug/L	54.3	BLOD	83.8	0-200			
2,4,6-Trichlorophenol	44.1	10.8	ug/L	54.3	BLOD	81.2	50-115			
1,4-Dichlorophenol	47.7	10.8	ug/L	54.3	BLOD	87.8	50-105			
2,4-Dimethylphenol	41.6	0.54	ug/L	54.3	BLOD	76.5	30-110			
1,4-Dinitrophenol	60.5	54.3	ug/L	54.3	BLOD	120	15-140			
1,4-Dinitrotoluene	52.8	10.8	ug/L	54.3	BLOD	90.8	15-111			
1,5-Dinitrotoluene	45.8	10.8	ug/L	54.3	BLOD	84.3	15-140			
2-Chloronaphthalene	44.0	10.8	ug/L	54.3	BLOD	81.8	40-100			
3-Chlorophenol	45.1	10.8	ug/L	54.3	BLOD	79.4	10-64			M
2-Nitrophenol	45.7	10.8	ug/L	54.3	BLOD	84.0	40-115			
1,3-Dichlorobenzene	58.8	10.8	ug/L	54.3	BLOD	54.8	20-110			
4,6-Dinitro-2-methylphenol	51.1	54.3	ug/L	54.3	BLOD	94.0	40-130			
4-Bromophenyl phenyl ether	62.9	10.8	ug/L	54.3	BLOD	97.2	15-110			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 180414H - SW210C										
Main: Spike (180414H-01)										
Source: 180414-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
4-Chlorophenyl phenyl ether	51.5	10.8	ug/L	54.3	51.00	94.8	75-110			
4-Nitrophenol	23.8	54.3	ug/L	54.3	51.00	44.0	0-120			
Acenaphthene	47.8	10.8	ug/L	54.3	51.00	88.2	24-90			
Acenaphthylene	48.0	10.8	ug/L	54.3	51.00	68.9	60-100			
Acenaphthene	38.2	21.7	ug/L	54.3	51.00	72.2	0-200			
alpha-Terpinene	51.8	8.17	ug/L	54.3	51.00	93.8	0-200			
Anthracene	49.8	10.8	ug/L	54.3	51.00	91.8	30-110			
Benzal (a) anthracene	48.5	0.08	ug/L	54.3	51.00	88.2	55-110			
Benzal (a) pyrene	48.4	8.17	ug/L	54.3	51.00	85.4	55-110			
Benzal (a) fluoranthene	47.8	10.8	ug/L	54.3	51.00	87.8	40-120			
Benzal (a) 2 (a) pyrene	44.1	10.8	ug/L	54.3	51.00	81.1	45-120			
Benzal (a) fluoranthene	48.3	10.8	ug/L	54.3	51.00	90.7	45-120			
1a (2-Chloromethyl) methylene	44.7	10.8	ug/L	54.3	51.00	82.2	40-120			
1a (2-Chloromethyl) ether	43.4	10.8	ug/L	54.3	51.00	79.8	40-120			
2,2' Dicyclo (1,4-dioxaphthalene)	28.9	10.8	ug/L	54.3	51.00	73.4	40-120			
1a (2-Ethoxymethyl) methylene	40.0	2.72	ug/L	54.3	51.00	78.1	40-120			
Butyl benzyl phenyl ether	44.4	10.8	ug/L	54.3	51.00	81.8	45-110			
Carbazole	55.8	2.72	ug/L	54.3	51.00	100	0-200			
Chrysene	47.2	10.8	ug/L	54.3	51.00	88.8	55-110			
Dibenz (a,h) anthracene	47.8	10.8	ug/L	54.3	51.00	88.1	40-120			
Diallyl phthalate	30.4	10.8	ug/L	54.3	1.97	88.8	40-120			
Dimethyl phthalate	44.8	10.8	ug/L	54.3	51.00	84.3	25-120			
Di-n-butyl phthalate	34.8	10.8	ug/L	54.3	51.00	101	55-110			
Di-n-octyl phthalate	51.8	10.8	ug/L	54.3	51.00	98.0	35-120			
Fluoranthene	50.8	10.8	ug/L	54.3	51.00	93.7	55-110			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 180414H - 180414C										
Matrix Spike (180414H-01)										
Source: 180414H-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Fluorene	49.2	10.8	ug/L	54.3	BLCO	90.8	50-110			
Fluoranthene	53.1	0.05	ug/L	54.3	BLCO	97.7	25-125			
Benzo[a]fluoranthene	52.2	10.8	ug/L	54.3	BLCO	96.0	25-125			
Benzo[b]fluoranthene	27.7	10.8	ug/L	54.3	BLCO	90.9	25-125			
Benzo[k]fluoranthene	41.8	10.8	ug/L	54.3	BLCO	76.8	25-125			
Benzo[e]pyrene	17.8	10.8	ug/L	54.3	BLCO	57.1	40-160			
Benzo[a]pyrene	26.1	10.8	ug/L	54.3	BLCO	71.8	10-110			
Benzo[a]anthracene	44.2	10.8	ug/L	54.3	BLCO	81.5	40-160			
Indeno[1,2,3-cd]perylene	44.8	10.8	ug/L	54.3	BLCO	82.0	40-160			
1-methylanthracene	27.8	10.8	ug/L	54.3	BLCO	51.1	25-110			
1-methyl-2-naphthol	40.8	10.8	ug/L	54.3	BLCO	75.2	15-87			
1-methyl-2-naphthol	34.9	10.8	ug/L	54.3	BLCO	72.7	15-87			
2-Chloro-naphthalene	40.1	10.8	ug/L	54.3	BLCO	80.4	10-81			
2-methyl-naphthalene	55.0	21.7	ug/L	54.3	BLCO	109	27-109			W
Phenanthrene	49.0	10.8	ug/L	54.3	BLCO	90.2	50-110			
Phenol	20.2	10.8	ug/L	54.3	BLCO	37.0	0-105			
Pyrene	35.7	10.8	ug/L	54.3	BLCO	65.7	25-110			
Pyrene	26.1	10.8	ug/L	54.3	BLCO	51.8	0-200			
Sum: 2,4,6-Trichlorophenol (Sum)	100		ug/L	100		93.8	20-60			W
Sum: 2-Fluorophenol (Sum)	47.8		ug/L	54.3		87.8	23-87			W
Sum: 3-Fluorophenol (Sum)	40.4		ug/L	100		40.8	15-55			
Sum: Nitrobenzene (Sum)	49.0		ug/L	54.3		90.2	70-90.2			
Sum: Phenol (Sum)	20.2		ug/L	100		24.8	1-12			W
Sum: p-Naphthyl (Sum)	26.1		ug/L	54.3		70.7	27-133			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 180414H - 180418C										
Main: Spike Spg (180414H-180418C)										
Source: 180414H-180418C Prepared: 04/09/2018 Analyzed: 04/09/2018										
1,2-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	72.8	21.8-66.7	7.75	20	NS
1,3-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	71.8	22-65	8.26	20	NS
1,4-Dichlorobenzene	36.8	10.8	ug/L	34.3	BLCO	68.8	22-61	8.58	20	NS
1,4-Dibromobenzene	40.8	10.8	ug/L	34.3	BLW	70.8	22-60	7.22	20	NS
1-Chloroacetylene	41.4	10.8	ug/L	34.3	BLCO	76.7	0-200	8.85	20	
1,4-d. Trichlorobenzene	40.8	10.8	ug/L	34.3	BLCO	73.7	30-115	8.88	20	
2,4-Dichlorophenol	43.1	10.8	ug/L	34.3	BLCO	79.3	30-105	70.2	20	
2,4-Dimethylphenol	36.2	9.24	ug/L	34.3	BLCO	68.5	30-115	14.3	20	
2,4-Dibromophenol	66.8	14.8	ug/L	34.3	BLCO	112	10-140	7.44	20	
2,4-Dinitrophenol	47.8	10.8	ug/L	34.3	BLCO	88.7	12-111	8.28	20	
2,6-Dinitrophenol	41.4	10.8	ug/L	34.3	BLCO	76.7	18-148	10.3	20	
1-Chloroacetylene	41.2	10.8	ug/L	34.3	BLCO	74.7	45-105	8.58	20	
2-Chlorophenol	30.8	10.8	ug/L	34.3	BLCO	72.8	18-64	8.45	20	NS
2-Nitrophenol	41.3	10.8	ug/L	34.3	BLCO	75.7	40-115	9.82	20	
2,2'-Dichlorodiphenyl ether	26.5	70.8	ug/L	14.3	BLCO	48.8	20-115	11.7	20	
4,4'-Dinitro-2-methylphenol	47.2	34.3	ug/L	34.3	BLCO	88.8	40-130	7.75	20	
4-Bromophenyl phenyl ether	47.8	10.8	ug/L	34.3	BLCO	68.4	15-115	11.5	20	
4-Chlorophenyl phenyl ether	45.8	10.8	ug/L	34.3	BLCO	63.8	15-115	12.2	20	
4-Nitrophenol	22.8	34.3	ug/L	34.3	BLCO	41.8	0-128	5.58	20	
Acenaphthene	43.2	10.8	ug/L	34.3	BLCO	78.8	34-95	10.3	20	
Acenaphthylene	42.8	10.8	ug/L	34.3	BLCO	78.0	30-105	11.1	20	
Acetylphenone	36.2	21.7	ug/L	34.3	BLCO	66.8	0-200	8.07	20	
alpha-Terpinene	65.8	2.73	ug/L	34.3	BLCO	64.2	0-200	10.5	20	
Anthracene	45.8	10.8	ug/L	34.3	BLCO	63.8	30-115	8.88	20	
Benz(a)anthracene	45.4	0.08	ug/L	34.3	BLCO	63.8	30-115	8.88	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limits	RPD	RPD Limit	Qual
Batch: 880014H - 880018C										
Main: Spike Exp (880014H-880018C)										
Source: 180819-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Benzene (a) pyrene	44.0	0.71	ug/L	54.3	BL00	67.0	55-110	5.29	20	
Benzene (a) fluoranthene	43.8	10.9	ug/L	54.3	BL00	60.8	40-120	8.48	20	
Benzene (b) fluorene	41.0	10.9	ug/L	54.3	BL00	75.8	40-120	7.18	20	
Benzene (b) fluoranthene	47.6	10.9	ug/L	54.3	BL00	68.0	40-120	9.00	20	
Isa (2-Quinolineyl) methane	40.2	10.9	ug/L	54.3	BL00	73.8	40-120	10.7	20	
Isa (2-Quinolineyl) ether	40.1	10.9	ug/L	54.3	BL00	72.7	40-120	7.90	20	
2,7-Diethyl (1-benzopyrene)	36.9	10.9	ug/L	54.3	BL00	67.8	40-120	7.20	20	
Isa (2-Ethynyl) phenanthrene	37.0	2.72	ug/L	54.3	BL00	68.8	40-120	12.5	20	
Butyl benzyl phenoxide	46.4	16.9	ug/L	54.3	BL00	74.0	40-110	9.44	20	
Chrysene	53.0	2.72	ug/L	54.3	BL00	66.4	0-200	5.67	20	
Dibenz(a,h)	40.1	10.9	ug/L	54.3	BL00	70.0	55-110	9.20	20	
Dibenz(a,h) anthracene	44.8	10.9	ug/L	54.3	BL00	62.4	40-120	8.88	20	
Diallyl phenoxide	45.5	10.9	ug/L	54.3	1.87	60.8	40-120	10.3	20	
Dimethyl phenoxide	40.7	10.9	ug/L	54.3	BL00	74.0	20-120	71.8	20	
Diphenyl phenoxide	50.2	70.0	ug/L	54.3	BL00	60.0	50-110	6.60	20	
Diphenyl phenoxide	47.9	10.9	ug/L	54.3	BL00	68.2	30-130	7.47	20	
Fluoranthene	40.8	10.1	ug/L	54.3	BL00	70.2	50-110	8.85	20	
Fluorene	44.4	10.9	ug/L	54.3	BL00	61.8	50-110	10.3	20	
Hexachlorobenzene	47.0	0.00	ug/L	54.3	BL00	68.8	25-120	11.7	20	
Hexachlorobutadiene	47.8	10.9	ug/L	54.3	BL00	68.0	25-120	8.78	20	
Hexachlorocyclopentadiene	23.8	10.9	ug/L	54.3	BL00	63.0	20-120	16.1	20	
Hexachloroethane	27.9	10.9	ug/L	54.3	BL00	60.8	20-120	9.24	20	
Indeno (1,2,3-cd) pyrene	44.3	10.9	ug/L	54.3	BL00	61.4	40-120	6.87	20	
Isophthalene	35.8	10.9	ug/L	54.3	BL00	66.8	10-110	8.77	20	
Naphthalene	40.7	10.9	ug/L	54.3	BL00	74.8	40-100	8.28	20	

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
Batch: 88001H - 88001C										
Main: Spike Drop (88001H-88001C)										
Source: 88001H-81 Prepared: 04/09/2018 Analyzed: 04/09/2018										
Nitrobenzene	41.3	10.8	ug/L	54.3	BLOD	79.8	40-100	7.88	20	
m-Nitrodimethylamine	29.2	10.8	ug/L	54.3	BLOD	48.2	25-110	5.71	20	
m-Nitroo-n-propylamine	37.8	10.8	ug/L	54.3	BLOD	88.8	13-87	7.42	20	
m-Nitroodiphenylamine	90.9	10.8	ug/L	54.3	BLOD	68.9	12-87	10.7	20	
p-Chloroaniline	44.3	10.8	ug/L	54.3	BLOD	81.5	10-91	10.3	20	
Para-chlorophenol	54.8	21.7	ug/L	54.3	BLOD	101	27-109	8.12	20	
Phenylthiourea	42.9	10.8	ug/L	54.3	BLOD	79.0	50-115	8.91	20	
Propyl	18.5	10.8	ug/L	54.3	BLOD	33.7	0-115	9.25	20	
Pyrene	59.2	10.8	ug/L	54.3	BLOD	59.2	23-110	10.5	20	
Pyrene	21.8	10.8	ug/L	54.3	BLOD	43.5	0-200	17.4	20	
Sum 2,4,6-Trinitrophenol (Sum)	88.9		ug/L	100		81.7	20-60			
Sum 2-Fluorobiphenyl (Sum)	42.7		ug/L	54.3		78.6	23-67			
Sum 2-Fluorophenol (Sum)	43.8		ug/L	100		40.1	10-52			
Sum Nitrobenzenes (Sum)	41.5		ug/L	54.3		75.5	10-98.5			
Sum Phenols (Sum)	21.8		ug/L	100		31.1	5-33			
Sum p-Substituted (Sum)	34.9		ug/L	54.3		64.2	27-133			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch #000181 - SW2018C

Blank (0000181-0001)	Prepared: 04/09/2018 Analyzed: 04/18/2018									
PCB as Aroclor 1218	BL00	0.200	ug/L							
4,4'-DDE	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.200	ug/L							
PCB as Aroclor 1212	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.200	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.200	ug/L							
beta-BHC	BL00	0.200	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.200	ug/L							
Endosulfan I	BL00	0.200	ug/L							
Endosulfan II	BL00	0.200	ug/L							
Endosulfan sulfate	BL00	0.200	ug/L							
Esfenvalerate	BL00	0.200	ug/L							
Esfenvalerate	BL00	0.200	ug/L							
gamma-BHC (Lindane)	BL00	0.200	ug/L							
Heptachlor	BL00	0.200	ug/L							
Heptachlor epoxide	BL00	0.200	ug/L							
Methoxychlor	BL00	0.200	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
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Date Issued: 4/18/2018 4:05:25PM

Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NALCQ	NALCQ Limit	RPD	RPD Limit	Qual
Batch: 8800181 - 8800180										
Batch: 8800181-8800180										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
TOXAPHENE	BLD	1.00	ug/L							
Sum PCB	0.100		ug/L	0.200		60.0	20-100			
Sum TCDF	0.140		ug/L	0.200		70.0	10-112			
Sum TCDF	0.100		ug/L	0.200		90.0	30-100			
Sum DDT	0.140		ug/L	0.200		70.0	27-131			
OCB (8800181-8800180)										
Prepared: 04/05/2018 Analyzed: 04/09/2018										
1,1'-DDT	0.080	0.050	ug/L	0.100		80.0	23-134			
1,1'-DDE	0.090	0.050	ug/L	0.100		90.0	23-134			
1,1'-DDT	0.070	0.050	ug/L	0.100		70.0	23-134			
Alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Beta-BHC	0.090	0.050	ug/L	0.100		90.0	23-134			
Gamma-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Delta	0.090	0.050	ug/L	0.100		80.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
Exin	0.090	0.050	ug/L	0.100		80.0	23-134			
Exin sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachlor epoxide	0.080	0.050	ug/L	0.100		80.0	23-134			
Methoxychlor	0.080	0.050	ug/L	0.100		80.0	23-134			
Misc	0.070	0.050	ug/L	0.100		70.0	23-134			



Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18041811 - SW2150C										
LOQ (8800181-881) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Sum PCMX	0.100		ug/L	0.200		75.0	18-112			
Sum PCB	0.140		ug/L	0.200		70.0	27-131			
LOQ (8800181-882) Prepared: 04/09/2018 Analyzed: 04/09/2018										
PCB as Aroclor 1218	0.530	0.200	ug/L	1.00		53.0	40-90			
PCB as Aroclor 1260	0.560	0.200	ug/L	1.00		56.0	40-90			
Sum PCB	0.100		ug/L	0.200		50.0	30-105			
Sum PCMX	0.100		ug/L	0.200		50.0	30-105			
LOQ (8800181-883) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Total herb	1.85	1.00	ug/L	2.50		74.0	23-134			
Sum PCMX	0.100		ug/L	0.200		65.0	18-112			
Sum PCB	0.100		ug/L	0.200		60.0	27-131			
LOQ (8800181-884) Prepared: 04/09/2018 Analyzed: 04/09/2018										
Total herb	1.74	0.200	ug/L	2.00		87.0	23-134			
Sum PCMX	0.100		ug/L	0.200		60.0	18-112			
Sum PCB	0.100		ug/L	0.200		60.0	27-131			
Matrix Spike (8800181-885) Source: 18041811-01 Prepared: 04/09/2018 Analyzed: 04/09/2018										
4,4'-DDE	0.126	0.050	ug/L	0.100	BL00	126	23-134			
4,4'-DDE	0.170	0.050	ug/L	0.100	BL00	169	23-134			W
4,4'-DDT	0.126	0.050	ug/L	0.100	BL00	126	23-134			
Arochl	0.090	0.050	ug/L	0.100	BL00	90.0	23-134			
alpha-BHC	0.140	0.050	ug/L	0.100	BL00	140	23-134			W
beta-BHC	0.170	0.050	ug/L	0.100	BL00	169	23-134			W

Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 1802181 - 180218C										
Matrix Spike (1802181-MS1)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
Endosulfan-C	0.106	0.053	ug/L	0.106	BLOD	100	25-134			
Desferal	0.100	0.050	ug/L	0.106	BLOD	750	25-134			M
Endosulfan-I	0.095	0.048	ug/L	0.106	BLOD	80.0	25-134			
Endosulfan-S	0.100	0.050	ug/L	0.106	BLOD	100	25-134			
Endosulfan-sulfate	0.125	0.063	ug/L	0.106	BLOD	120	25-134			
Evans	0.120	0.060	ug/L	0.106	BLOD	120	25-134			
Endrin aldehyde	0.085	0.043	ug/L	0.106	BLOD	80.0	25-134			
gamma-BHC (Lindane)	0.104	0.052	ug/L	0.106	BLOD	100	25-134			
Heptachlor	0.117	0.059	ug/L	0.106	BLOD	110	25-134			
Heptachlor epoxide	0.117	0.059	ug/L	0.106	BLOD	110	25-134			
Methoxychlor	0.120	0.060	ug/L	0.106	BLOD	120	25-134			
Metol	0.074	0.037	ug/L	0.106	BLOD	70.0	25-134			
Sum PCMX	0.138		ug/L	0.212		65.0	18-112			
Sum PCB	0.181		ug/L	0.212		80.0	27-131			
Matrix Spike (1802181-MS2)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	1.10	0.220	ug/L	1.10	BLOD	101	40-120			M
PCB as Aroclor 1260	1.09	0.220	ug/L	1.10	BLOD	99.0	40-120			
Sum PCB	0.140		ug/L	0.220		63.0	20-100			
Sum PCMX	0.137		ug/L	0.220		62.0	20-100			
Matrix Spike Dup (1802181-MSD1)										
		Source: 180218-01		Prepared: 04/09/2018 Analyzed: 04/09/2018						
4,4'-DDE	0.086	0.043	ug/L	0.106	BLOD	80.0	25-134	26.0	20	P
4,4'-DDE	0.129	0.064	ug/L	0.106	BLOD	100	25-134	27.8	20	P
4,4'-DDT	0.086	0.043	ug/L	0.106	BLOD	80.0	25-134	26.0	20	P
Aroclor	0.075	0.037	ug/L	0.106	BLOD	70.0	25-134	21.6	20	P

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NPLC	NPLC Limit	RPD	RPD Limit	Qual
Batch B602181 - B60218C										
Matrix Spike Dup (B602181-B60218C)										
	Source: B60218A-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
alpha-BHC	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	65.7	20	P
beta-BHC	0.108	0.054	ug/L	0.100	BL00	100	25-124	49.1	20	P
gamma-BHC	0.088	0.054	ug/L	0.100	BL00	80.0	25-124	21.2	20	P
Delta	0.119	0.054	ug/L	0.100	BL00	110	25-124	29.7	20	P
Endosulfan I	0.060	0.054	ug/L	0.100	BL00	60.0	25-124	27.8	20	P
Endosulfan II	0.070	0.054	ug/L	0.100	BL00	70.0	25-124	24.2	20	P
Endosulfan sulfate	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	51.8	20	P
Epoxin	0.097	0.054	ug/L	0.100	BL00	90.0	25-124	27.4	20	P
Endrin aldehyde	0.085	0.054	ug/L	0.100	BL00	80.0	25-124	27.5	20	P
gamma-BHC (Lindane)	0.080	0.054	ug/L	0.100	BL00	80.0	25-124	21.2	20	P
Heptachlor	0.097	0.054	ug/L	0.100	BL00	90.0	25-124	18.8	20	
heptachlor epoxide	0.075	0.054	ug/L	0.100	BL00	70.0	25-124	43.4	20	P
Methoxychlor	0.100	0.054	ug/L	0.100	BL00	100	25-124	17.1	20	
Mirex	0.060	0.054	ug/L	0.100	BL00	60.0	25-124	14.2	20	
Sum TCDD	0.100		ug/L	0.218		60.0	18-112			
Sum DCB	0.140		ug/L	0.218		60.0	20-120			
Matrix Spike Dup (B602181-B60218C)										
	Source: B60218A-01			Prepared: 04/09/2018 Analyzed: 04/09/2018						
PCB as Aroclor 1218	2.38	0.200	ug/L	1.10	BL00	217	40-120	12.7	20	M
PCB as Aroclor 1260	0.898	0.200	ug/L	1.10	BL00	87.0	40-120	12.8	20	
Sum DCB	0.140		ug/L	0.200		60.0	20-100			
Sum TCDF	0.130		ug/L	0.200		60.0	20-100			

Batch B604218 - B604218C

Blank (B604218-BLKT)

Prepared & Analyzed: 04/10/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch #20180220 - SW215C

Blank (20180220-BLANK)

Prepared & Analyzed 04/19/2018

4,4'-DDE	BL00	0.050	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
PCB as Aroclor 1232	BL00	0.200	ug/L							
4,4'-DDD	BL00	0.050	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.050	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.050	ug/L							
beta-BHC	BL00	0.050	ug/L							
Gamma-BHC	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
Esfenvalerate	BL00	0.050	ug/L							
gamma-BHC (Lindane)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NAREC	NAREC Limit	RPD	RPD Limit	Qual
Batch #000220 - 000250										
Metals (800010-8475)										
Prepared & Analyzed: 04/10/2018										
Totaphene	BL000	1.00	ug/L							
Sum PCB	0.210		ug/L	0.200		105	30-105			
Sum PCMX	0.150		ug/L	0.200		70.0	18-112			
Sum TCMX	0.100		ug/L	0.200		70.0	30-100			
Sum PCB	0.210		ug/L	0.200		105	27-131			
OCB (800400-844)										
Prepared & Analyzed: 04/10/2018										
1,1-DDE	0.070	0.050	ug/L	0.100		70.0	23-134			
1,1-DDE	0.070	0.050	ug/L	0.100		70.0	23-134			
1,1-DDT	0.060	0.050	ug/L	0.100		60.0	23-134			
Acin	0.060	0.050	ug/L	0.100		60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
beta-BHC	0.060	0.050	ug/L	0.100		60.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Decan	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan sulfate	0.060	0.050	ug/L	0.100		60.0	23-134			
Exin	0.070	0.050	ug/L	0.100		70.0	23-134			
Exin sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
gamma-BHC (Lindane)	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachl	0.070	0.050	ug/L	0.100		70.0	23-134			
Heptachl epoxide	0.070	0.050	ug/L	0.100		70.0	23-134			
Methoxychlor	0.060	0.050	ug/L	0.100		60.0	23-134			
Non	0.070	0.050	ug/L	0.100		70.0	23-134			



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBD0230 - SW3510C										
LCS (BBD0230-BS1)										
Prepared & Analyzed: 04/10/2018										
Surr: TCMX	0.160		ug/L	0.200		80.0	10-112			
Surr: DCB	0.170		ug/L	0.200		85.0	20-134			
LCS (BBD0230-BS2)										
Prepared & Analyzed: 04/10/2018										
PCB as Aroclor 1016	0.850	0.200	ug/L	1.00		85.0	40-90			
PCB as Aroclor 1260	0.848	0.200	ug/L	1.00		84.0	40-90			
Surr: DCB	0.210		ug/L	0.200		105	30-105			
Surr: TCMX	0.180		ug/L	0.200		90.0	30-105			
LCS (BBD0230-BS3)										
Prepared & Analyzed: 04/10/2018										
Toxaphene	2.55	1.00	ug/L	2.50		81.2	23-134			
LCS (BBD0230-BS4)										
Prepared & Analyzed: 04/10/2018										
Chlordane	1.80	0.200	ug/L	2.00		74.0	23-134			
Matrix Spike (BBD0230-MS1)										
Source: 1806204-01 Prepared & Analyzed: 04/10/2018										
4,4'-DDE	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
4,4'-DDE	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
4,4'-DDE	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
Alrin	0.060	0.050	ug/L	0.100	BLOD	60.0	23-134			
alpha-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
beta-BHC	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
gamma-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Desfer	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan I	0.090	0.050	ug/L	0.100	BLOD	90.0	23-134			
Endosulfan II	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: 18040220 - NY215C										
Main1 Spike (18040220-M1)										
Source: 18040220-01 Prepared & Analyzed: 04/10/2018										
Endrin	0.080	0.200	ug/L	0.100	0.000	80.0	25-124			
Endrin aldehyde	0.070	0.200	ug/L	0.100	0.000	70.0	25-124			
gamma-BHC (Lindane)	0.070	0.200	ug/L	0.100	0.000	70.0	25-124			
Heptachlor	0.090	0.200	ug/L	0.100	0.000	60.0	25-124			
Heptachlor epoxide	0.070	0.200	ug/L	0.100	0.000	70.0	25-124			
Methoxychlor	0.080	0.200	ug/L	0.100	0.000	80.0	25-124			
Mirex	0.070	0.200	ug/L	0.100	0.000	70.0	25-124			
Sum PAHs	0.130		ug/L	0.200		60.0	14-113			
Sum PCBs	0.170		ug/L	0.200		80.0	20-101			
Main1 Spike Dup (18040220-M1D)										
Source: 18040220-01 Prepared & Analyzed: 04/10/2018										
1,1'-DDE	0.080	0.200	ug/L	0.100	0.000	80.0	25-124	15.4	20	
1,1'-DDE	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	
1,1'-DDE	0.080	0.200	ug/L	0.100	0.000	80.0	25-124	0.00	20	
Aroclor	0.090	0.200	ug/L	0.100	0.000	60.0	25-124	0.00	20	
alpha-BHC	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	
beta-BHC	0.090	0.200	ug/L	0.100	0.000	60.0	25-124	0.00	20	
delta-BHC	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	
Dieldrin	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	
Endosulfan I	0.080	0.200	ug/L	0.100	0.000	80.0	25-124	0.00	20	
Endosulfan II	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	
Endosulfan sulfate	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	13.3	20	
Endrin	0.080	0.200	ug/L	0.100	0.000	80.0	25-124	0.00	20	
Endrin aldehyde	0.080	0.200	ug/L	0.100	0.000	80.0	25-124	15.4	20	
gamma-BHC (Lindane)	0.070	0.200	ug/L	0.100	0.000	70.0	25-124	0.00	20	

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 1804220 - 1804250

Matrix Spike Exp (1804220-1804250)	Source: 1804220-01			Prepared & Analyzed 04/10/2018						
Heptachlor	0.000	0.200	ug/L	0.100	BLGD	80.0	25-134	0.00	20	
Heptachlor epoxide	0.070	0.200	ug/L	0.100	BLGD	70.0	25-134	0.00	20	
Methoxychlor	0.080	0.200	ug/L	0.100	BLGD	80.0	25-134	71.8	20	
lithox	0.070	0.200	ug/L	0.100	BLGD	70.0	25-134	0.00	20	
Sum: TCDF	0.120		ug/L	0.200		80.0	18-112			
Sum: DCB	0.170		ug/L	0.200		85.0	27-131			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Organism/Matrix Verified by: CC/ECG - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC Limit	%REC Limit	RPD	RPD Limit	Qual
Batch BBD0203 - SW3510C										
Blank (BBD0203-BLK1)										
				Prepared: 04/09/2018 Analyzed: 04/17/2018						
2,4,5-T	BLOD	0.500	ug/L							
2,4,5-TP (Silvex)	BLOD	0.500	ug/L							
2,4-D	BLOD	0.500	ug/L							
Dinoseb	BLOD	0.500	ug/L							
Pentachlorophenol	BLOD	0.500	ug/L							
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
LCS (BBD0203-BL1)										
				Prepared: 04/09/2018 Analyzed: 04/17/2018						
2,4,5-T	0.389	0.500	ug/L	0.500		70.0	53-144			
2,4,5-TP (Silvex)	0.550	0.500	ug/L	0.500		90.0	52-129			
2,4-D	0.811	0.500	ug/L	0.500		110	53-126			
Dinoseb	0.555	0.500	ug/L	0.500		60.0	60-137			L
Pentachlorophenol	0.389	0.500	ug/L	0.500		70.0	52-124			
Sum OCAs (Sum)	1.33		ug/L	1.11		120	60-112			S
Matrix Spike (BBD0203-MS1)										
				Source: 18041984-01 Prepared: 04/09/2018 Analyzed: 04/17/2018						
2,4,5-T	0.500	0.500	ug/L	0.500	BLOD	90.0	53-144			
2,4,5-TP (Silvex)	0.444	0.500	ug/L	0.500	BLOD	80.0	52-129			
2,4-D	0.500	0.500	ug/L	0.500	BLOD	90.0	53-126			
Dinoseb	0.555	0.500	ug/L	0.500	BLOD	60.0	60-137			M
Pentachlorophenol	0.500	0.500	ug/L	0.500	BLOD	70.0	52-124			
Sum OCAs (Sum)	1.50		ug/L	1.11		120	60-112			S
Matrix Spike (BBD0203-MS2)										
				Source: 18041984-01 Prepared: 04/09/2018 Analyzed: 04/17/2018						
2,4,5-T	0.444	0.500	ug/L	0.500	BLOD	80.0	53-144			
2,4,5-TP (Silvex)	0.555	0.500	ug/L	0.500	BLOD	100	52-129			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
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Date Issued: 4/18/2018 4:05:25PM

Organizations Participates by OQREC - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1802021 - 180210C										
Matrix Spike (1802021-MS1)										
Source: 1802021-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4-D	0.598	0.500	ug/L	0.598	BLDG	100	93-126			
Diuron	0.444	0.500	ug/L	0.598	BLDG	80.0	80-137			
Permethrinophenol	0.000	0.500	ug/L	0.598	BLDG	80.0	82-124			
Sum OCAs (Sum)	1.02		ug/L	1.17		100	89-112			
Matrix Spike Dup (1802021-MS2)										
Source: 180210A-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.444	0.500	ug/L	0.598	BLDG	80.0	82-144	11.8	20	
2,4,5-TP (Diuron)	0.444	0.500	ug/L	0.550	BLDG	80.0	82-120	0.00	20	
2,4-D	0.500	0.500	ug/L	0.598	BLDG	80.0	83-138	0.00	20	
Diuron	0.300	0.500	ug/L	0.598	BLDG	80.0	80-137	0.00	20	M
Permethrinophenol	0.000	0.500	ug/L	0.598	BLDG	70.0	82-124	0.00	20	
Sum OCAs (Sum)	1.72		ug/L	1.17		100	89-112			B
Matrix Spike Dup (1802021-MS3)										
Source: 180202A-01 Prepared: 04/09/2018 Analyzed: 04/17/2018										
2,4,5-T	0.598	0.500	ug/L	0.598	BLDG	80.0	82-144	0.00	20	
2,4,5-TP (Diuron)	0.500	0.500	ug/L	0.550	BLDG	80.0	82-120	10.5	20	
2,4-D	0.500	0.500	ug/L	0.550	BLDG	90.0	83-128	10.5	20	
Diuron	0.388	0.500	ug/L	0.598	BLDG	70.0	80-137	13.1	20	
Permethrinophenol	0.444	0.500	ug/L	0.598	BLDG	80.0	82-124	11.8	20	
Sum OCAs (Sum)	1.80		ug/L	1.17		80.0	89-112			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Micro-enrichment by GC/ECD - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 18040208 - 3756171										
Blank (18040208-BLANK)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	BL00	0.010	ug/L							
1,2,3-Trichloropropane	BL00	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL00	0.010	ug/L							
LC8 (18040208-LC8)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.176	0.010	ug/L	0.150		111	65-135			
1,2,3-Trichloropropane	0.244	0.010	ug/L	0.250		97.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.324	0.010	ug/L	0.350		130	65-135			
LC8 Dup (18040208-LC8D)										
Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.318	0.010	ug/L	0.350		126	65-135	12.5	20	
1,2,3-Trichloropropane	0.299	0.010	ug/L	0.250		104	65-135	5.95	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.500	0.010	ug/L	0.350		141	65-135	8.61	20	L
Mainly Spike (18040208-M37)										
Source: 1804176-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.227	0.010	ug/L	0.248	BL00	91.7	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.298	0.010	ug/L	0.248	BL00	120	65-135			
Mainly Spike (18040208-M32)										
Source: 1804176-01 Prepared: 04/10/2018 Analyzed: 04/10/2018										
1,2-Dibromoethane (DBE)	0.263	0.010	ug/L	0.248	BL00	108	65-135			
1,2,3-Trichloropropane	0.187	0.010	ug/L	0.248	BL00	75.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.010	ug/L	0.248	BL00	108	65-135			
Mainly Spike Dup (18040208-M32D)										
Source: 1804176-01 Prepared & Analyzed: 04/09/2018										
1,2-Dibromoethane (DBE)	0.264	0.010	ug/L	0.248	BL00	108	65-135	10.1	20	
1,2,3-Trichloropropane	0.188	0.010	ug/L	0.248	BL00	83.2	65-135	5.45	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.280	0.010	ug/L	0.248	BL00	158	65-135	27.4	20	M, P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Monitored/checked by: CORECO - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 18042008 - 000001

Matrix Spike (mg) (18042008-000001)	Source: 18042008-01	Prepared: 04/09/2018	Analyzed: 04/10/2018							
1,2-Dichloroethane (DCE)	0.199	0.010	ug/L	0.248	BLDG	79.0	85-135	32.8	20	P
1,2,3-Trichloropropane	0.192	0.010	ug/L	0.248	BLDG	69.3	85-135	14.2	20	P
1,2-Dichloro-3-chloropropane (DCCP)	0.164	0.010	ug/L	0.248	BLDG	66.2	85-135	46.7	20	P

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/18/2018 4:05:25PM

Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual	
Batch: 8804214 - No Prep Wet Chem											
Blank (8804214-BLANK)	Prepared & Analyzed: 04/09/2018										
Sulfide	BLD	1.00	mg/L								
LCS (8804214-8801)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.21	1	mg/L	0.00		91.2	80-120				
LCS Dup (8804214-8801)	Prepared & Analyzed: 04/09/2018										
Sulfide	4.14	1	mg/L	0.00		87.8	80-120	2.00%	3%		
Matrix Spike (8804214-MS1)	Source: 18041714-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.32	1.00	mg/L	0.00	BLD	88.8	75-125				
Matrix Spike Dup (8804214-MS1)	Source: 18041714-01				Prepared & Analyzed: 04/09/2018						
Sulfide	4.36	1.00	mg/L	0.00	BLD	87.8	75-125	1.38	3%		
Batch: 8804081 - No Prep Wet Chem											
Blank (8804081-BLANK)	Prepared & Analyzed: 04/11/2018										
Cyanide	BLD	0.01	mg/L								
LCS (8804081-8801)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.25	0.01	mg/L	0.250		102	80-120				
LCS Dup (8804081-8801)	Prepared & Analyzed: 04/11/2018										
Cyanide	0.26	0.01	mg/L	0.250		108	80-120	2.00	3%		
Matrix Spike (8804081-MS1)	Source: 18040713-02				Prepared & Analyzed: 04/11/2018						
Cyanide	0.30	0.01	mg/L	0.250	BLD	122	80-120			SI	

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water and Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 8800281 - No Prep Wet Chem										
Matrix Spike (8800281-MS0)	Source: 1808118-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.21	0.01	mg/L	0.250	BL00	124	80-120			W
Matrix Spike Dup (8800281-MS0-1)	Source: 1808118-02		Prepared & Analyzed: 04/11/2018							
Cyanide	0.24	0.01	mg/L	0.250	BL00	128	80-120	12.4	20	W
Matrix Spike Dup (8800281-MS0-2)	Source: 1808118-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.15	0.01	mg/L	0.250	BL00	110	80-120	1.27	10	W
Batch 8800284 - No Prep Wet Chem										
Blank (8800284-BL0)			Prepared & Analyzed: 04/11/2018							
Cyanide	BL00	0.01	mg/L							
LCA (8800284-LCA)			Prepared & Analyzed: 04/11/2018							
Cyanide	0.27	0.01	mg/L	0.250		108	80-120			
LCA Dup (8800284-LCA-1)			Prepared & Analyzed: 04/11/2018							
Cyanide	0.28	0.01	mg/L	0.250		111	80-120	2.84	20	
Matrix Spike (8800284-MS1)	Source: 1808094-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.20	0.01	mg/L	0.250	BL00	100	80-120			W
Matrix Spike Dup (8800284-MS1-1)	Source: 1808094-01		Prepared & Analyzed: 04/11/2018							
Cyanide	0.22	0.01	mg/L	0.250	BL00	108	80-120	1.86	20	W

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 80007001 Series Methods			Preparation Method EPA200.8 RL.2		
1800116-01	50.0 mL / 50.0 mL	8060100	8800116	8800001	AD00001
1800116-02	50.0 mL / 50.0 mL	8060100	8800116	8800002	AD00001
1800116-03	50.0 mL / 50.0 mL	8060100	8800116	8800003	AD00001
1800116-04	50.0 mL / 50.0 mL	8060100	8800116	8800004	AD00001
1800116-05	50.0 mL / 50.0 mL	8060100	8800116	8800005	AD00001

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 80007001 Series Methods			Preparation Method EPA200.8 RL.4		
1800116-01	50.0 mL / 50.0 mL	8060004	8800116	8800413	AD00076
1800116-02	50.0 mL / 50.0 mL	8060004	8800116	8800413	AD00076
1800116-03	50.0 mL / 50.0 mL	8060004	8800116	8800413	AD00076
1800116-04	50.0 mL / 50.0 mL	8060004	8800116	8800413	AD00076
1800116-05	50.0 mL / 50.0 mL	8060004	8800116	8800413	AD00076

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met (Elementary) Analysis			Preparation Method No Prep Wet Chem		
1800116-01	6.00 mL / 6.00 mL	8090101	8800016	8800024	
1800116-02	6.00 mL / 6.00 mL	8090101	8800016	8800024	
1800116-03	6.00 mL / 6.00 mL	8090101	8800016	8800024	
1800116-04	6.00 mL / 6.00 mL	8090101	8800016	8800024	
1800116-05	6.00 mL / 6.00 mL	8090101	8800016	8800024	
1800116-01	6.00 mL / 6.00 mL	8090102	8800016	8800024	AD00044
1800116-02	6.00 mL / 6.00 mL	8090102	8800016	8800024	AD00044
1800116-03	6.00 mL / 6.00 mL	8090102	8800016	8800024	AD00044
1800116-04	6.00 mL / 6.00 mL	8090102	8800016	8800024	AD00044

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800116-01	4.00 mL / 16.00 mL	SWW0120	SW00104	SW00100	A00004
Environmental Organic Compounds by GCMS					
			Preparation Method	SW0100	
1800116-01	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-02	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-03	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-04	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-05	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-06	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-07	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-08	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-09	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-10	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-11	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-12	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-13	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-14	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-15	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-16	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-17	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-18	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-19	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-20	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-21	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-22	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-23	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-24	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-25	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-26	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-27	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-28	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-29	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003
1800116-30	80 mL / 1.00 mL	SWW0100	SW00104	SW00114	A00003

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS					
			Preparation Method	SW0100	

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Organic Compounds by GCMS					
			Preparation Method	SW00008	
1800116-01	5.00 mL / 5.00 mL	SW00008	SW00101	SW00149	A000012
1800116-02	5.00 mL / 5.00 mL	SW00008	SW00101	SW00149	A000012
1800116-03	5.00 mL / 5.00 mL	SW00008	SW00101	SW00149	A000012
1800116-04	5.00 mL / 5.00 mL	SW00008	SW00101	SW00149	A000012
1800116-05	5.00 mL / 5.00 mL	SW00008	SW00101	SW00149	A000012
Metals (Total) by EPA 8000/7000 Series Methods					
			Preparation Method	SW14754	
1800116-01	20.0 mL / 20.0 mL	SW14754	SW00000	SW00001	A000000
1800116-02	20.0 mL / 20.0 mL	SW14754	SW00000	SW00001	A000000
1800116-03	20.0 mL / 20.0 mL	SW14754	SW00000	SW00001	A000000
1800116-04	20.0 mL / 20.0 mL	SW14754	SW00000	SW00001	A000000
1800116-05	20.0 mL / 20.0 mL	SW14754	SW00000	SW00001	A000000
Metals Inorganics by GC/ICP					
			Preparation Method	SW00011	
1800116-01	50.0 mL / 2.00 mL	SW00011	SW00000	SW00100	A000000
1800116-02	50.0 mL / 2.00 mL	SW00011	SW00000	SW00100	A000000
1800116-03	50.0 mL / 2.00 mL	SW00011	SW00000	SW00100	A000000
1800116-04	50.0 mL / 2.00 mL	SW00011	SW00000	SW00100	A000000
1800116-05	50.0 mL / 2.00 mL	SW00011	SW00000	SW00100	A000000

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Date Issued: 4/18/2018 4:05:25PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EM610C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM630A in Non-Potable Water	
Antimony	VELAPNC.WDEP
Arsenic	VELAPWDEP
Thallium	VELAPWYDEP
EM747M in Non-Potable Water	
Mercury	VELAPNC.WDEP
EM821F in Non-Potable Water	
1,2-Dichloroethane (DCE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-3-chloropropane (DBCP)	VELAPNC
EM821E in Non-Potable Water	
4,4'-DDD	NC.VELAPWDEP

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Analyte	Certification
1,1-DCE	NC,VELAP,WVDEP
1,1-DOT	NC,VELAP,WVDEP
Arocl	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chrysene	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
EMBTGA in Non-Potable Water	
2,4,5-T	VELAP,NC

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silox)	VELAPNC
2,4-D	VELAPNC
Creosol	VELAPNC
Pentachlorophenol	VELAPNC
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropane	NC,VELAP,WVDEP
1,2-Trichloroethane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloroethane	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MIBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, VELAP, WYDEP
Benzene	NC, VELAP, WYDEP
Bromochloromethane	NC, VELAP, WYDEP
Bromodichloromethane	NC, VELAP, WYDEP
Bromobenzene	NC, VELAP, WYDEP
Bromomethane	NC, VELAP, WYDEP
Carbon disulfide	NC, VELAP, WYDEP
Carbon tetrachloride	NC, VELAP, WYDEP
Chlorobenzene	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
Chloroacetylene	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethyl methylsulfide	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Hexachlorobutadiene	NC, VELAP, WYDEP
Iodomethane	NC, VELAP, WYDEP
Isobutyl Alcohol	NC, VELAP, WYDEP
m,p-Xylenes	NC, VELAP, WYDEP
Methacrylonitrile	NC, VELAP, WYDEP
Methyl methacrylate	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
EMBTSS in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC,VELAP,WVDEP
1,3,5-Trinitrobenzene	NC,VELAP,WVDEP
1,3-Dinitrobenzene	NC,VELAP,WVDEP
1,4-Naphthoquinone	NC,VELAP,WVDEP
1-Naphthylamine	NC,VELAP,WVDEP
2,3,4,6-Tetrachlorophenol	NC,VELAP,WVDEP
2,4,5-Trichlorophenol	NC,VELAP,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,VELAP,WVDEP
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,VELAP,WVDEP

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Certified Analyses included in this Report

Analyte	Certification
1-Chloroethane	NC, VELAP, WYDEP
1-Chloroethene	NC, VELAP, WYDEP
1-Methylnaphthalene	NC, VELAP, WYDEP
1-Naphthylamine	NC, VELAP, WYDEP
2-Nitroethane	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
1,1-Dichloroethene	NC, VELAP, WYDEP
1,1-Dimethylethene	NC, VELAP, WYDEP
1-Methylchloroethene	NC, VELAP, WYDEP
3-Nitroethane	NC, VELAP, WYDEP
4,8-Dioxo-2-naphthol	NC, VELAP, WYDEP
4-Aminobiphenyl	NC, VELAP, WYDEP
4-Bromobiphenyl phenyl ether	NC, VELAP, WYDEP
4-Chlorobiphenyl	NC, VELAP, WYDEP
4-Chlorobiphenyl phenyl ether	NC, VELAP, WYDEP
4-Nitroethane	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro- <i>o</i> -toluidine	NC, VELAP, WYDEP
7,7-Dimethylbenz (a) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benz (a) anthracene	NC, VELAP, WYDEP
Benz (a) pyrene	NC, VELAP, WYDEP
Benz (b) fluoranthene	NC, VELAP, WYDEP
Benz (g,h,i) perylene	NC, VELAP, WYDEP
Benz (k) fluoranthene	NC, VELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
1,2-Dichloro (1-chloropropane)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Diethyl phthalate	NC, NELAP, WYDEP
Dimethyl maleate	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dioxin	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Isobutyl (1,3-Isod) pyrene	NC, VELAP, WYDEP
Isobutyl	NC, VELAP, WYDEP
Isophrone	NC, VELAP, WYDEP
Isosorbide	NC, VELAP, WYDEP
Isoprene	NC, VELAP, WYDEP
m-p-Cresol	NC, VELAP, WYDEP
Methoxyflene	NC, VELAP, WYDEP
Methyl methanesulfonate	NC, VELAP, WYDEP
Methyl parathion	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
Nitrobenzene	NC, VELAP, WYDEP
n-Nitrosodibutylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitrosod-n-butylamine	NC, VELAP, WYDEP
n-Nitrosod-n-propylamine	NC, VELAP, WYDEP
n-Nitrosodiphenylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitrosopiperidine	NC, VELAP, WYDEP
n-Nitrosopyrrolidine	NC, VELAP, WYDEP
o,o-Diethyl o-2-pyridyl phosphorothioate	NC, VELAP, WYDEP
o,o-Diethyl o-2-pyridyl phosphorothioate	NC, VELAP, WYDEP
o-m-p-Cresol	VELAP, WYDEP
o-Cresol	NC, VELAP, WYDEP
o-Toluidine	NC, VELAP, WYDEP
p-(Dimethylamino) azobenzene	NC, VELAP, WYDEP
p-Chloro-m-cresol	NC, VELAP, WYDEP
Pentachlorobenzene	NC, VELAP, WYDEP
Pentachloronitrobenzene (quinazone)	NC, VELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Phenacetic	NC, VELAP, WYDEP
Phenanthrene	NC, VELAP, WYDEP
Phenol	NC, VELAP, WYDEP
Phenols	NC, VELAP, WYDEP
p-Phenylenediamine	NC, VELAP, WYDEP
Pyrene	NC, VELAP, WYDEP
Solxol	NC, VELAP, WYDEP
SM9128 in Non-Potable Water	
County	VELAP
SM9219 in Non-Potable Water	
County	VELAP

Code	Description	Exp. Number	Expires
MD208	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	461	12/31/2018
VELAP Certificate #4337	VELAP, VA Virginia Certificate #6001	49(02)	09/14/2018
WYDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

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Date Issued: 4/18/2018 4:05:25PM

Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
Cl	Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	tentatively identified compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected congeners 101B, 1021, 1030, 1040, 1054, 1060, 1062, and 1068.



1941 REYNOLDS ROAD
 RICHMOND, VIRGINIA 23217
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Chain of Custody
 Form # CCR-01
 Rev. 1.0
 Effective: Feb 14, 2014

CHAIN OF CUSTODY

PAGE 1 of 1

COMPANY NAME: <i>Jays Engineering</i>	INVOICE TO:	PROJECT NAME/QUAN #:
CONTACT: <i>Sue White</i>	INVOICE CONTACT: <i>Leola Jones</i>	SITE NAME: <i>Land Valley Sealing Leola Jones</i>
ADDRESS: <i>1601 Oak Lane Richmond VA</i>	INVOICE ADDRESS:	PROJECT NUMBER: <i>2170019.04.01</i>
PHONE #: <i>804-355-4570</i>	INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL: <i>Jays_Engineering@jayseng.com</i>	Pretreatment Program:
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PWS I.D. #:
SAMPLER NAME (PRINT): <i>M. Anderson</i>	SAMPLER SIGNATURE: <i>[Signature]</i>	Turn Around Time: <i>10</i> Day(s)

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS	
1) <i>Mw-16</i>	X					<i>4/17/18</i>	<i>09:00</i>		<i>E</i>	<i>3</i>								
2) <i>Mw-18</i>	X					<i>4/17/18</i>	<i>07:45</i>		<i>E</i>	<i>3</i>								
3) <i>Mw-3A</i>	X					<i>4/17/18</i>	<i>07:24</i>		<i>E</i>	<i>3</i>								
4) <i>Mw-4</i>	X					<i>4/17/18</i>	<i>07:55</i>		<i>E</i>	<i>3</i>								
5) <i>Mw-7B</i>	X					<i>4/17/18</i>	<i>09:45</i>		<i>E</i>	<i>3</i>								
6)																		
7)																		
8)																		
9)																		
10)																		

804-355-4570	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>
	Lab Use Only: LAB USE ONLY										COOLER TEMP: <i>10.0</i> °C								
	LaBella Associates, 18D0116 Land Valley Compliance Walk												Recd: 04/18/2018 Due: 04/18/2018						
	[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>														[Signature] DATE: <i>4/18/18</i> TIME: <i>10:00 AM</i>				

Sample Preservation Log

Order ID: H06114

Date Performed: 01/04/18

Analyst Performing Check: DWS

Sample ID	Vial	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3-NO2		DBP		Pesticide (METHIDATHION)		SVOC (METHYLBENZENE)		CMT		PERFOM (METHYLBENZENE)	
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
01	A																	X		X					
01	E	X																							
01	F			X																					
01	G					X																			
01	G	X																							
01	R			X																					
01	S					X																			
01	AC	X																							
01	AD			X																					
01	AE					X																			
02	A																	X		X					
02	E	X																							
02	F			X																					
02	G					X																			
03	A																	X		X					

NaOH ID: _____ HNO₃ ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂S₂O₃ ID: _____ ** pH must be adjusted between 9.3 - 9.7*
 HCL ID: _____ Na₂SO₃ ID: _____ Buffer Sol'n ID: _____
 1N NaOH ID: _____ 5N NaOH: _____

Sample Preservation Log

Order ID: 1000116

Date Performed: 04/04/10

Analyst Performing Check: RWS

Sample ID	ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO3/NO2		DBP		Pesticide (EPA/MSDS)		SVOC (EPA/MSDS)		CrVI		PERFOR (EPA/MSDS)	
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
03	E	X																							
03	F			X																					
03	G					X																			
04	A																	X		X					
04	E	X																							
04	F			X																					
04	G					X																			
05	A																	X		X					
05	E	X																							
05	F			X																					
05	G					X																			

NaOH ID: _____ HNO3 ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 H2SO4 ID: _____ Na2S2O3 ID: _____ * pH must be adjusted between 9.3 - 9.7
 Buffer Sol'n ID: _____
 HCL ID: _____ Na2SO3 ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/18/2018 4:05:25PM

Sample Conditions Checklist

Sample Received at	11:07PM
Was your sample cooled?	Yes
Was cooling time met? If no, what was cooling time?	No
Are the sample pieces free of containers and contents?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits? (allows freezing to FOC or residual oil to be and identify later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA804, EPA806, EPA804, EPA815 GR0, EPA8021, EPA804, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

For trip blank data, see work order #1802114, DWS 4/6/18 1710

Analysis Detecta Report

Date Issued:

Client Name:

Client Site ID:

Submitted To:

Laboratory Sample ID:

Client Sample ID:

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
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There are no reportable results for target analytes in this report.

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID: 181678

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: September 27, 2018 15:20
Date Issued: October 10, 2018 16:26
Project Number: 2181900
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill

Enclosed are the results of analyses for samples received by the laboratory on 09/27/2018 15:20. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Coyne
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfate that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Equipment Blank	1811076-01	Ground Water	09/27/2018 10:05	09/27/2018 15:20
Field Blank	1811076-02	Ground Water	09/27/2018 10:00	09/27/2018 15:20
Trip Blank	1811076-03	Ground Water	09/11/2018 09:20	09/27/2018 15:20

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		5.0	10.0	1	ug/L	BC
Antimony	01	7440-36-2	8000/7000A	09/28/2018 17:00	10/02/2018 16:04	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-9	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		5.0	10.0	1	ug/L	BC
Beryllium	01	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		2.0	4.0	1	ug/L	BC
Cadmium	01	7440-43-9	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		2.0	4.0	1	ug/L	BC
Cobalt	01	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		2.0	4.0	1	ug/L	BC
Chromium	01	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		4.0	10.0	1	ug/L	BC
Copper	01	7440-50-8	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		2.0	10.0	1	ug/L	BC
Mercury	01	7439-97-6	8070/7000	10/04/2018 08:48	10/06/2018 12:43	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		2.0	10.0	1	ug/L	BC
Lead	01	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		5.0	10.0	1	ug/L	BC
Arsenic	01	7440-38-5	8000/7000A	09/28/2018 17:00	10/02/2018 16:04	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		40.0	50.0	1	ug/L	BC
Tin	01	7440-31-0	8000/7000	09/28/2018 17:00	10/05/2018 13:06	BL00		20.0	20.0	1	ug/L	BC
Thallium	01	7440-28-4	8000/7000A	09/28/2018 17:00	10/03/2018 12:07	BL00		1.00	2.00	1	ug/L	BC
Vanadium	01	7440-62-2	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		5.0	10.0	1	ug/L	BC
Zinc	01	7440-66-0	8000/7000	09/28/2018 17:00	10/04/2018 16:43	BL00		10.0	10.0	1	ug/L	BC
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	635-26-6	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	0.40	1	ug/L	BCB
1,1,1-Trifluoroethane	01	71-68-8	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	BCB
1,1,2,2-Tetrafluoroethane	01	79-34-6	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.20	0.40	1	ug/L	BCB
1,1,2-Trifluoroethane	01	79-00-5	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	BCB
1,1-Dichloroethane	01	75-34-3	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	BCB
1,1-Dichloroethylene	01	75-35-4	8080/0000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.70	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **181076-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,2,3-Trichloropropane	01	99-10-4	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	78-87-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-48-7	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dioxane (MIX)	01	78-91-3	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		1.00	3.00	1	ug/L	KCS
2-Pentanone (MIX)	01	55-178-6	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		2.20	5.00	1	ug/L	KCS
4-Ethyl-2-pentanone (MIX)	01	105-16-1	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	01	75-25-2	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
Bromotrichloromethane	01	74-93-9	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-18-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	106-90-7	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
Chloroethane	01	78-09-3	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-68-3	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.30	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-64-2	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10091-01-5	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.30	1.00	1	ug/L	KCS
Chloromethoxyethane	01	134-68-1	SW82000	09/28/2018 13:48	09/28/2018 13:48	BL00		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181075-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroform	01	74-82-5	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCB
Dichloromethane	01	75-71-8	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCB
Ethylbenzene	01	100-41-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCB
Isobutane	01	74-88-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	01	78-99-1	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		20.0	40.0	1	ug/L	KCB
m-xylene	01	131901-24	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	2.00	1	ug/L	KCB
Methylene chloride	01	75-09-2	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.20	4.00	1	ug/L	KCB
Propylbenzene	01	91-20-3	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCB
p-xylene	01	95-47-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCB
Styrene	01	100-42-5	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	01	127-18-3	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.40	1.00	1	ug/L	KCB
Toluene	01	108-88-3	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	1.00	1	ug/L	KCB
trans-1,2-Dichloroethylene	01	106-66-5	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCB
trans-1,3-Dichlorobenzene	01	10661-07-8	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	01	110-67-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		1.80	4.00	1	ug/L	KCB
Triisopropylene	01	78-91-6	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCB
Trichlorofluoromethane	01	75-69-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.80	1.00	1	ug/L	KCB
Vinyl acetate	01	108-05-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		2.00	10.0	1	ug/L	KCB
Vinyl chloride	01	75-01-4	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		0.50	0.80	1	ug/L	KCB
Xylenes, Total	01	1330-20-7	SW826008	09/28/2018 13:48	09/28/2018 13:48	BL00		1.00	2.00	1	ug/L	KCB
Sum: 1,2-Dichloroethane-ol (Sum)	01	85.7 %	75-120	09/28/2018 13:48	09/28/2018 13:48							
Sum: 4-Dichlorofluoromethane (Sum)	01	104 %	75-120	09/28/2018 13:48	09/28/2018 13:48							
Sum: Dichlorofluoromethane (Sum)	01	100 %	75-120	09/28/2018 13:48	09/28/2018 13:48							
Sum: Toluene-ol (Sum)	01	107 %	75-130	09/28/2018 13:48	09/28/2018 13:48							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	62-67-1	8462TMO	10/01/2018 06:18	10/02/2018 15:04	BL00		2.22	11.1	1	ug/L	043
Nitro (2-Ethylhexyl) phthalate	01	117-91-7	8462TMO	10/01/2018 06:18	10/02/2018 15:04	BL00		2.78	2.78	1	ug/L	043
Olefin (p,p') anthracene	01	55-70-3	8462TMO	10/01/2018 06:18	10/02/2018 15:04	BL00		2.22	11.1	1	ug/L	043
Diethyl phthalate	01	84-66-2	8462TMO	10/01/2018 06:18	10/02/2018 15:04	BL00		2.22	11.1	1	ug/L	043
Dibutyl phthalate	01	64-74-2	8462TMO	10/01/2018 06:18	10/02/2018 15:04	BL00		4.44	11.1	1	ug/L	043
Indene (1,2,3-cd) pyrene	01	189-09-8	8462TMO	10/01/2018 06:17	10/02/2018 15:04	BL00		2.22	11.1	1	ug/L	043
Sum 2,4,6-Trinitrotoluene (Sum)	01	2,4,6	70-05	10/01/2018 06:18	10/02/2018 15:04							
Sum 2-Fluorobiphenyl (Sum)	01	62-2	9-87	10/01/2018 06:18	10/02/2018 15:04							
Sum 2-Fluorobenzal (Sum)	01	20-8	70-87	10/01/2018 06:18	10/02/2018 15:04							
Sum Methylmercury (Sum)	01	67-7	14-68.1	10/01/2018 06:18	10/02/2018 15:04							
Sum Phenol (Sum)	01	28-2	9-33	10/01/2018 06:18	10/02/2018 15:04							
Sum 2-Naphthyl-014 (Sum)	01	68-8	27-142	10/01/2018 06:18	10/02/2018 15:04							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	01	10241-91-6	8190B18	10/02/2018 12:00	10/04/2018 14:54	BL00		0.006	0.003	1	ug/L	MSM
Sum PCBs	01	7618-01-9	819-113	10/02/2018 12:00	10/04/2018 14:54							
Sum DDE	01	7618-01-9	819-131	10/02/2018 12:00	10/04/2018 14:54							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	61-76-4	SW8151A	10/03/2018 08:23	10/06/2018 13:42	BL00		0.100	0.500	1	µg/L	SKJ
Sum (OCAs) (Sum)	01	61-76-4	SA-112	10/03/2018 08:23	10/06/2018 13:42							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by GC/MS												
1,2-Dibromoethane (DEB)	01	106-93-4	826011	10/03/2018 10:28	10/03/2018 20:28	BLDQ		0.008	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	01	96-18-4	826011	10/03/2018 10:28	10/03/2018 20:28	BLDQ		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	826011	10/03/2018 10:28	10/03/2018 20:28	BLDQ		0.008	0.010	1	ug/L	MSM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 181076-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	01	10496-24-8	SW8218	10/01/2018 11:00	10/01/2018 15:00	BL00		0.00	0.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181076-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BD
Arsenic	02	7440-38-2	8000/7000A	09/28/2018 17:00	10/02/2018 16:09	BL00		1.0	5.0	1	ug/L	BDV
Barium	02	7440-39-3	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BD
Beryllium	02	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	4.0	1	ug/L	BD
Cadmium	02	7440-43-9	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	4.0	1	ug/L	BD
Cobalt	02	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	4.0	1	ug/L	BD
Chromium	02	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		4.0	10.0	1	ug/L	BD
Copper	02	7440-50-8	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	10.0	1	ug/L	BD
Mercury	02	7439-97-6	8000/7000	10/04/2018 13:47	10/04/2018 13:56	BL00		0.20	0.20	1	ug/L	MM
Nickel	02	7440-02-0	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	10.0	1	ug/L	BD
Lead	02	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BD
Antimony	02	7440-36-0	8000/7000A	09/28/2018 17:00	10/02/2018 16:09	BL00		1.00	5.00	1	ug/L	BDV
Strontium	02	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		40.0	50.0	1	ug/L	BD
Tin	02	7440-31-0	8000/7000	09/28/2018 17:00	10/05/2018 13:47	BL00		20.0	20.0	1	ug/L	BD
Thallium	02	7440-38-4	8000/7000A	09/28/2018 17:00	10/05/2018 13:59	BL00		1.00	2.00	1	ug/L	BD
Vanadium	02	7440-63-2	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BD
Zinc	02	7440-66-0	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		10.0	10.0	1	ug/L	BD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181976-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	78-24-3	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	78-29-4	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	95-18-4	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	107-06-2	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	78-87-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	02	75-70-3	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	02	521-78-8	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	109-10-1	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	02	74-97-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloroethane	02	75-27-4	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluorobenzene	02	79-25-2	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-18-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		1.50	5.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW82000	09/28/2018 14:14	09/28/2018 14:14	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181076-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-05-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.70	1.00	1	ug/L	KCB
Chloroform	02	67-66-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	02	74-87-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	1.00	1	ug/L	KCB
cis-1,3-Dichloroethylene	02	156-69-2	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	02	10061-01-6	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	02	134-48-1	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	0.85	1	ug/L	KCB
Dibromomethane	02	74-95-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	02	75-71-8	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.55	1.00	1	ug/L	KCB
Ethylbenzene	02	100-41-4	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Hexamethane	02	74-88-4	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	02	75-85-1	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		20.0	40.0	1	ug/L	KCB
m-p-Xylene	02	179621-25	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	2.00	1	ug/L	KCB
Methylene chloride	02	75-09-2	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		1.00	4.00	1	ug/L	KCB
Nonhalobenzene	02	61-30-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	1.00	1	ug/L	KCB
o-Xylene	02	95-47-6	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Styrene	02	100-42-6	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Toluene	02	108-88-3	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.50	1.00	1	ug/L	KCB
trans-1,3-Dichloroethylene	02	156-60-9	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	1.00	1	ug/L	KCB
trans-1,3-Dichloropropene	02	10061-02-8	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.30	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	02	110-67-6	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		1.00	4.00	1	ug/L	KCB
Trichloroethylene	02	79-01-6	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.40	1.00	1	ug/L	KCB
Trichlorofluoromethane	02	75-68-4	SW8260B	09/28/2018 14:14	09/28/2018 14:14	BL00		0.85	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2016 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 161076-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatiles Organic Compounds by GCMS												
Vinyl acetate	02	106-25-4	8260.000	09/28/2016 14:14	09/28/2016 14:14	BLD		0.50	10.0	1	ug/L	KCS
Vinyl chloride	02	75-07-4	8260.000	09/28/2016 14:14	09/28/2016 14:14	BLD		0.50	0.50	1	ug/L	KCS
Nylenes, Total	02	100-25-7	8260.000	09/28/2016 14:14	09/28/2016 14:14	BLD		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane-d4 (Sum)	02	100 %	70-120	09/28/2016 14:14	09/28/2016 14:14							
Sum: 4-Bromodifluoromethane (Sum)	02	104 %	75-030	09/28/2016 14:14	09/28/2016 14:14							
Sum: Dibromodifluoromethane (Sum)	02	101 %	70-130	09/28/2016 14:14	09/28/2016 14:14							
Sum: Toluene-d8 (Sum)	02	100 %	70-130	09/28/2016 14:14	09/28/2016 14:14							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **181075-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	02	62-67-4	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		2.20	11.0	1	ug/L	SKS
Nitro (2-Ethylhexyl) phthalate	02	117-91-7	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		2.75	2.75	1	ug/L	SKS
Olefin (p,p') anthracene	02	55-70-3	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		2.20	11.0	1	ug/L	SKS
Diethyl phthalate	02	84-66-3	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		3.20	11.0	1	ug/L	SKS
Dibutyl phthalate	02	64-74-2	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		4.40	11.0	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	02	190-90-8	8462T100	10/01/2018 09:15	10/02/2018 15:36	BL00		3.30	11.0	1	ug/L	SKS
Sum 2,4,6-Tribromophenyl (Sum)	02	100 %	71-95	10/01/2018 09:15	10/02/2018 15:36							
Sum 2-Fluorobiphenyl (Sum)	02	99.0 %	9-87	10/01/2018 09:15	10/02/2018 15:36							S
Sum 2-Fluorobiphenyl (Sum)	02	50.2 %	10-82	10/01/2018 09:15	10/02/2018 15:36							
Sum Methylphenyl (Sum)	02	57.2 %	10-85.1	10/01/2018 09:15	10/02/2018 15:36							
Sum Phenyl (Sum)	02	34.8 %	5-33	10/01/2018 09:15	10/02/2018 15:36							S
Sum 2-Naphthyl-011 (Sum)	02	100 %	27-102	10/01/2018 09:15	10/02/2018 15:36							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181075-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Endosulfan sulfate	02	58101-47-6	8190B18	10/02/2018 12:00	10/04/2018 15:12	BL00		0.006	0.007	1	ug/L	MSM
Sum PCBs	02	8010-91-9	819-113	10/02/2018 12:00	10/04/2018 15:12							
Sum DCB	02	8010-91-9	819-131	10/02/2018 12:00	10/04/2018 15:12							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181075-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Dependent/Inherited by GC/MS												
2,4,6-T	02	65-70-5	SW8151A	10/03/2018 08:23	10/06/2018 14:00	BL00		0.100	0.500	1	ug/L	SKJ
Sum SOAA (Sum)	02	70.0 %	66-112	10/03/2018 08:23	10/06/2018 14:00							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181076-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by OUSECO												
1,2-Dibromethane (EDB)	02	106-93-4	824011	10/03/2018 10:26	10/03/2018 20:48	BL00		0.008	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	824011	10/03/2018 10:26	10/03/2018 20:48	BL00		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	824011	10/03/2018 10:26	10/03/2018 20:48	BL00		0.008	0.010	1	ug/L	MSM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Field Blank

Laboratory Sample ID: 181075-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	02	5042-29-8	SW8218	10/01/2018 11:00	10/01/2018 15:00	BL00		0.00	1.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 181075-01

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	636-20-8	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-3	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	79-38-4	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	95-18-4	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	95-50-1	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	09	107-06-2	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	79-87-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	02	75-70-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	02	521-78-8	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	109-10-1	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	03	67-66-1	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	03	71-43-2	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	03	74-87-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	03	79-27-4	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	03	79-25-2	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.80	1.00	1	ug/L	KCS
Carbon dioxide	03	75-18-0	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW82000	09/28/2018 14:39	09/28/2018 14:39	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 181975-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.70	1.00	1	ug/L	KCB
Chloroform	01	67-66-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	01	74-87-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.85	1.00	1	ug/L	KCB
cis-1,3-Dichloroethylene	01	156-88-2	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	01	10001-01-6	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	01	114-48-1	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.80	0.80	1	ug/L	KCB
Dibromomethane	01	74-95-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	01	75-71-8	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.55	1.00	1	ug/L	KCB
Ethylbenzene	01	100-41-4	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Hexamethane	01	74-88-4	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	01	74-85-1	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		75.0	40.0	1	ug/L	KCB
m-p-Xylene	01	117601-25-1	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.80	2.00	1	ug/L	KCB
Methylene chloride	01	75-09-2	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		1.00	4.00	1	ug/L	KCB
Nonhalobenzene	01	61-30-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.80	1.00	1	ug/L	KCB
o-Xylene	01	95-47-6	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Styrene	01	100-42-6	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	01	127-18-4	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Toluene	01	108-88-3	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.50	1.00	1	ug/L	KCB
trans-1,3-Dichloroethylene	01	156-80-9	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.80	1.00	1	ug/L	KCB
trans-1,3-Dichloropropene	01	10001-02-8	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.30	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	01	110-67-8	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		1.00	4.00	1	ug/L	KCB
Trichloroethylene	01	79-01-6	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.40	1.00	1	ug/L	KCB
Trichlorofluoromethane	01	74-89-4	SW8260B	09/28/2018 14:30	09/28/2018 14:30	BL00		0.80	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2016 4:26:32PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 161676-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	01	106-26-4	8260.000	09/28/2016 14:39	09/28/2016 14:39	BLD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-07-4	8260.000	09/28/2016 14:39	09/28/2016 14:39	BLD		0.50	0.50	1	ug/L	KCS
Nylenes, Total	03	1330-20-7	8260.000	09/28/2016 14:39	09/28/2016 14:39	BLD		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane-d4 (Sum)	01	6812 %	70-130	09/28/2016 14:39	09/28/2016 14:39							
Sum: 4-Bromodifluoromethane (Sum)	01	100 %	75-430	09/28/2016 14:39	09/28/2016 14:39							
Sum: Dibromodifluoromethane (Sum)	03	100 %	70-130	09/28/2016 14:39	09/28/2016 14:39							
Sum: Toluene-d8 (Sum)	03	100 %	70-130	09/28/2016 14:39	09/28/2016 14:39							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 181875-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-Extractables by GC/MS												
1,2-Dibromobenzene (DOB)	01	106-93-4	826011	10/03/2018 10:26	10/03/2018 21:08	BLD		0.008	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	02	96-18-4	826011	10/03/2018 10:26	10/03/2018 21:08	BLD		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	826011	10/03/2018 10:26	10/03/2018 21:08	BLD		0.008	0.010	1	ug/L	MSM



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Method (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Sample Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BBI0867 - EPA200.2/R2.8

Blank (BBI0867-BLK1)

Prepared: 09/25/2018 Analyzed: 10/04/2018

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

Blank (BBI0867-BLK2)

Prepared: 09/28/2018 Analyzed: 10/05/2018

Barium	BLOD	10.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Ti	BLOD	20.0	ug/L

LCS (BBI0867-007)

Prepared: 09/28/2018 Analyzed: 10/04/2018

Barium	514	10.0	ug/L	500	103	80-120
Beryllium	484	4.0	ug/L	500	96.9	80-120
Cadmium	514	4.0	ug/L	500	103	80-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
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Batch: 0928018 - EPA 8000 Series

LCS (880667-881)										
Prepared: 09/28/2018 Analyzed: 10/04/2018										
Chromium	528	10.0	ug/L	500		108	90-120			
Cobalt	813	4.0	ug/L	500		103	90-120			
Copper	490	10.0	ug/L	500		88.8	90-120			
Lead	622	10.0	ug/L	500		104	90-120			
Nickel	520.8	10.0	ug/L	500		104	90-120			
Selenium	511	50.0	ug/L	500		102	90-120			
Silver	111	10.0	ug/L	100		111	90-120			6
Vanadium	514	10.0	ug/L	500		103	90-120			
Zinc	512	10.0	ug/L	500		102	90-120			

LCS (880667-882)										
Prepared: 09/28/2018 Analyzed: 10/05/2018										
Barium	467	10.0	ug/L	500		87.4	90-120			
Cadmium	478	4.0	ug/L	500		94.8	90-120			
Chromium	478	10.0	ug/L	500		95.8	90-120			
Lead	484	10.0	ug/L	500		94.8	90-120			
Selenium	473	50.0	ug/L	500		94.8	90-120			
Silver	95.1	10.0	ug/L	100		95.1	90-120			
Ti	88.2	20.0	ug/L	100		88.2	90-120			

LCS Dup (880667-8801)										
Prepared: 09/28/2018 Analyzed: 10/04/2018										
Barium	528	10.0	ug/L	500		108	90-120	2.23	20	
Beryllium	506	4.0	ug/L	500		101	90-120	4.28	20	
Cadmium	534	4.0	ug/L	500		107	90-120	5.87	20	
Chromium	547	10.0	ug/L	500		109	90-120	4.17	20	
Cobalt	533	4.0	ug/L	500		107	90-120	5.75	20	
Copper	518	10.0	ug/L	500		104	90-120	5.02	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Method (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch 090917 - EPA700/702.1

LCS Dup (BB10867-MS01)		Prepared: 09/28/2018 Analyzed: 10/04/2018								
Lead	541	10.0	ug/L	500		108	80-120	5.71	20	
Nickel	541.4	10.0	ug/L	500		108	80-120	5.89	20	
Selenium	531	50.0	ug/L	500		106	80-120	5.85	20	
Silver	111	10.0	ug/L	100		111	80-120	6.491	20	E
Vanadium	535	10.0	ug/L	500		107	80-120	4.06	20	
Zinc	529	10.0	ug/L	500		106	80-120	3.37	20	

LCS Dup (BB10867-MS02)		Prepared: 09/28/2018 Analyzed: 10/05/2018								
Barium	488	10.0	ug/L	500		97.6	80-120	0.163	20	
Cadmium	485	4.0	ug/L	500		97.0	80-120	1.44	20	
Chromium	488	10.0	ug/L	500		97.2	80-120	1.62	20	
Lead	485	10.0	ug/L	500		97.2	80-120	0.452	20	
Selenium	472	50.0	ug/L	500		94.4	80-120	0.151	20	
Silver	94.4	10.0	ug/L	100		94.4	80-120	0.752	20	
Tin	88.3	20.0	ug/L	100		88.3	80-120	0.173	20	

Matrix Spike (BB10867-MS1)		Source: 181078-01		Prepared: 09/28/2018 Analyzed: 10/04/2018						
Barium	519	10.0	ug/L	500	BLOD	104	75-125			
Beryllium	489	4.0	ug/L	500	BLOD	99.7	75-125			
Cadmium	527	4.0	ug/L	500	BLOD	105	75-125			
Chromium	541	10.0	ug/L	500	BLOD	108	75-125			
Cobalt	525	4.0	ug/L	500	BLOD	105	75-125			
Copper	507	10.0	ug/L	500	BLOD	101	75-125			
Lead	506	10.0	ug/L	500	BLOD	107	75-125			
Nickel	523.8	10.0	ug/L	500	BLOD	107	75-125			
Selenium	520	50.0	ug/L	500	BLOD	104	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1810087 - EPA/001/02.4										
Matrix Spike (1810087-MS1)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Silver	113	10.0	ug/L	100	BLDG	113	75-125			E
Vanadium	527	10.0	ug/L	500	BLDG	100	75-125			
Zinc	118	10.0	ug/L	500	BLDG	104	75-125			
Matrix Spike (1810087-MS2)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Barium	345	10.0	ug/L	500	BLD	67.8	75-125			
Beryllium	505	4.0	ug/L	500	BLDG	101	75-125			
Calcium	506	4.0	ug/L	500	BLDG	101	75-125			
Chromium	526	10.0	ug/L	500	BLDG	105	75-125			
Cobalt	511	4.0	ug/L	500	BLD	102	75-125			
Copper	499	10.0	ug/L	500	BLDG	99.8	75-125			
Lead	514	10.0	ug/L	500	BLDG	103	75-125			
Manganese	511.8	10.0	ug/L	500	BLD	101	75-125			
Selenium	512	50.0	ug/L	500	BLDG	102	75-125			
Silver	107	10.0	ug/L	100	BLDG	107	75-125			E
Vanadium	517	10.0	ug/L	500	BLDG	103	75-125			
Zinc	465	10.0	ug/L	500	BLDG	93.1	75-125			
Matrix Spike (1810087-MS3)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
Barium	496	10.0	ug/L	500	BLDG	99.2	75-125			
Calcium	491	4.0	ug/L	500	BLDG	98.2	75-125			
Chromium	491	10.0	ug/L	500	BLDG	98.2	75-125			
Lead	497	10.0	ug/L	500	BLDG	99.4	75-125			
Selenium	492	50.0	ug/L	500	BLDG	98.4	75-125			
Silver	98.3	10.0	ug/L	100	BLDG	98.3	75-125			
Ti	88.8	20.0	ug/L	100	BLDG	88.8	75-125			



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Matrix (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BB0667 - EPA/MSD1										
Matrix Spike (BB0667-MS4) Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Barium	438	10.0	ug/L	500	180	99.0	75-125			
Cadmium	481	4.0	ug/L	500	BLOD	98.1	75-125			
Chromium	488	10.0	ug/L	500	BLOD	97.8	75-125			
Lead	476	10.0	ug/L	500	BLOD	98.0	75-125			
Selenium	479	50.0	ug/L	500	BLOD	95.9	75-125			
Silver	96.5	10.0	ug/L	100	BLOD	96.5	75-125			
Tin	76.3	20.0	ug/L	100	BLOD	76.3	75-125			
Matrix Spike Dup (BB0667-MSD1) Source: 181076-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Barium	508	10.0	ug/L	500	BLOD	102	75-125	2.13	20	
Beryllium	480	4.0	ug/L	500	BLOD	98.0	75-125	3.83	20	
Cadmium	514	4.0	ug/L	500	BLOD	103	75-125	2.44	20	
Chromium	529	10.0	ug/L	500	BLOD	106	75-125	2.30	20	
Cobalt	514	4.0	ug/L	500	BLOD	103	75-125	2.18	20	
Copper	491	10.0	ug/L	500	BLOD	98.3	75-125	3.21	20	
Lead	522	10.0	ug/L	500	BLOD	104	75-125	2.49	20	
Nickel	523.4	10.0	ug/L	500	BLOD	105	75-125	2.00	20	
Selenium	508	50.0	ug/L	500	BLOD	102	75-125	2.96	20	
Silver	107	10.0	ug/L	100	BLOD	107	75-125	8.84	20	
Vanadium	515	10.0	ug/L	500	BLOD	103	75-125	2.12	20	
Zinc	510	10.0	ug/L	500	BLOD	102	75-125	1.68	20	
Matrix Spike Dup (BB0667-MSD2) Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Barium	504	10.0	ug/L	500	180	98.7	75-125	0.691	20	
Beryllium	508	4.0	ug/L	500	BLOD	101	75-125	0.913	20	
Cadmium	514	4.0	ug/L	500	BLOD	103	75-125	1.25	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: BB0667 - EPA 80007000										
Matrix Spike Dup (BB0667-MSD2)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/04/2018			
Chromium	529	10.0	ug/L	500	BLOOD	108	75-125	0.501	20	
Cobalt	518	4.0	ug/L	500	10.4	101	75-125	1.13	20	
Copper	498	10.0	ug/L	500	BLOOD	98.8	75-125	0.114	20	
Lead	524	10.0	ug/L	500	BLOOD	104	75-125	1.39	20	
Nickel	517.9	10.0	ug/L	500	4.9	103	75-125	1.22	20	
Selenium	514	50.0	ug/L	500	BLOOD	103	75-125	0.386	20	
Silver	105	10.0	ug/L	100	BLOOD	105	75-125	1.36	20	E
Vanadium	515	10.0	ug/L	500	BLOOD	103	75-125	0.334	20	
Zinc	497	10.0	ug/L	500	BLOOD	99.5	75-125	0.377	20	
Matrix Spike Dup (BB0667-MSD3)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/05/2018			
Barium	510	10.0	ug/L	500	BLOOD	102	75-125	2.78	20	
Cadmium	506	4.0	ug/L	500	BLOOD	101	75-125	2.60	20	
Chromium	505	10.0	ug/L	500	BLOOD	101	75-125	2.60	20	
Lead	508	10.0	ug/L	500	BLOOD	102	75-125	2.14	20	
Selenium	493	50.0	ug/L	500	BLOOD	98.6	75-125	2.28	20	
Silver	99.2	10.0	ug/L	100	BLOOD	99.2	75-125	2.59	20	
Ti	91.8	20.0	ug/L	100	BLOOD	91.8	75-125	0.30	20	
Matrix Spike Dup (BB0667-MSD4)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/05/2018			
Barium	529	10.0	ug/L	500	190	93.8	75-125	0.442	20	
Cadmium	474	4.0	ug/L	500	BLOOD	94.8	75-125	1.25	20	
Chromium	482	10.0	ug/L	500	BLOOD	95.5	75-125	1.33	20	
Lead	473	10.0	ug/L	500	BLOOD	94.4	75-125	0.894	20	
Selenium	474	50.0	ug/L	500	BLOOD	94.8	75-125	1.12	20	
Silver	94.8	10.0	ug/L	100	BLOOD	94.8	75-125	1.75	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Methods (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch 880887 - EPA/201.9/2.1										
Main Spike Dup (880887-MSD4)										
Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
To:	71.8	20.0	ug/L	100	BLOD	71.8	75-125	1.08	20	
Batch 880888 - EPA/201.9/2.1										
Blank (880888-BLK1)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Blank (880888-BLK2)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	BLOD	2.00	ug/L							
LCS (880888-BS1)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	49.1	5.00	ug/L	50.0		98.1	80-120			
Arsenic	50	5.0	ug/L	50.0		99.3	80-120			
LCS (880888-BS2)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	51.0	2.00	ug/L	50.0		102	60-120			
LCS Dup (880888-BSD1)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	49.2	5.00	ug/L	50.0		98.4	80-120	0.315	20	
Arsenic	51	5.0	ug/L	50.0		101	80-120	1.95	30	
LCS Dup (880888-BSD2)										
Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	50.7	2.00	ug/L	50.0		101	80-120	0.982	20	
Main Spike (880888-MST)										
Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
Antimony	49.5	5.00	ug/L	50.0	BLOD	99.0	75-125			
Arsenic	50	5.0	ug/L	50.0	BLOD	101	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Matrix (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BB0868 - EPA201.13.1										
Matrix Spike (BB0868-MS1) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Thallium	50.1	2.00	ug/L	50.0	BLOD	100	75-125			
Matrix Spike Dup (BB0868-MSD1) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	50.1	5.00	ug/L	50.0	BLOD	100	75-125	1.29	20	
Arsenic	51	5.0	ug/L	50.0	BLOD	102	75-125	1.15	20	
Matrix Spike Dup (BB0868-MSD2) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	50.2	2.00	ug/L	50.0	BLOD	100	75-125	0.345	20	
Batch BBJ0132 - SW7470A										
Blank (BBJ0132-BLK1) Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	BLOD	0.20	ug/L							
LCS (BBJ0132-BS1) Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.47	0.20	ug/L	2.50		98.8	80-120			
LCS Dup (BBJ0132-BSD1) Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.31	0.20	ug/L	2.50		92.2	80-120	6.89	20	
Matrix Spike (BBJ0132-MS1) Source: 181083-01 Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.29	0.20	ug/L	2.50	BLOD	91.4	80-120			
Matrix Spike (BBJ0132-MS2) Source: 181079-01 Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.44	0.20	ug/L	2.50	BLOD	97.6	80-120			
Matrix Spike Dup (BBJ0132-MSD1) Source: 181083-01 Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.15	0.20	ug/L	2.50	BLOD	85.8	80-120	4.00	20	

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Methods (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BB-J0132 - SW7409A										
Matrix Spike Dup (BB-J0132-MS00) Source: 1811076-01 Prepared: 10/04/2018 Analyzed: 10/05/2018										
Mercury	2.81	0.20	ug/L	2.50	BLOD	104	80-120	6.81	20	
Batch BB-J0217 - SW7479A										
Blank (BB-J0217-BL00) Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	BLOD	0.20	ug/L							
LCS (BB-J0217-B01) Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	2.54	0.20	ug/L	2.50		102	80-120			
LCS Dup (BB-J0217-B001) Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.54	0.20	ug/L	2.50		102	80-120	0.148	20	
Matrix Spike (BB-J0217-MS1) Source: 1811076-02 Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	2.41	0.20	ug/L	2.50	BLOD	98.8	80-120			
Matrix Spike (BB-J0217-MS2) Source: 1811081-01 Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	1.82	0.20	ug/L	2.50	BLOD	72.7	80-120			M
Matrix Spike (BB-J0217-MS3) Source: 1811110-05 Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.56	0.20	ug/L	2.50	BLOD	103	80-120			
Matrix Spike Dup (BB-J0217-MS01) Source: 1811076-03 Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	2.38	0.20	ug/L	2.50	BLOD	94.3	80-120	1.30	20	
Matrix Spike Dup (BB-J0217-MS02) Source: 1811081-01 Prepared: 10/05/2018 Analyzed: 10/05/2018										
Mercury	1.76	0.20	ug/L	2.50	BLOD	70.3	80-120	5.32	20	M

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Matrix (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch 88-0017 - 887409A

Matrix Spike Org (88-0017-8800)	Source: 18110-88	Prepared: 10/02/18	Analyzed: 10/09/18							
Manganese	2.72	0.20	ug/L	2.50	85.00	100	80-120	8.83	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 09-0013 - 090308

Blank (09-0013-BLANK)

Prepared & Analyzed: 09/28/2018

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,2-Dichlorobenzene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1-Hexane (MIX)	BL00	5.00	ug/L
2-Hexane (MIX)	BL00	5.00	ug/L
4-Methyl-2-pentane (MIX)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acrylonitrile	BL00	5.00	ug/L
Benzene	BL00	1.00	ug/L
Bromochloromethane	BL00	1.00	ug/L
Bromoethane	BL00	0.50	ug/L
Bromobenzene	BL00	1.00	ug/L
Bromomethane	BL00	1.00	ug/L
Carbon disulfide	BL00	10.0	ug/L
Carbon tetrachloride	BL00	1.00	ug/L
Chlorobenzene	BL00	1.00	ug/L
Chloroethane	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatiles Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 88-0013 - 880008

Batch (88-0013-880008)

Prepared & Analyzed: 09/28/2018

Chlorobenzene	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,2-Dichloropropene	BL00	1.00	ug/L							
Dibenzylhydrazine	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Diethylamine	BL00	1.00	ug/L							
Isobutane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m-cresol	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							
Naphthalene	BL00	1.00	ug/L							
o-xylene	BL00	1.00	ug/L							
Styrene	BL00	1.00	ug/L							
Tetrachloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,2-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butadiene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	3.00	ug/L							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Volatiles Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BBJ0013 - SW5030B

Blank (BBJ0013-BLK1)

Prepared & Analyzed: 09/29/2018

Surr: 1,2-Dichloroethane-d4 (Surr)	50.0		ug/L	50.0		100	75-125			
Surr: 4-Bromofluorobenzene (Surr)	51.4		ug/L	50.0		103	75-125			
Surr: Dibromofluoromethane (Surr)	50.4		ug/L	50.0		101	75-125			
Surr: Toluene-d9 (Surr)	50.0		ug/L	50.0		100	75-125			

GC SW5030B

Prepared & Analyzed: 09/29/2018

1,1,1,2-Tetrafluoroethane	81.3	0.4	ug/L	80.0		103	60-120			
1,1,1-Trichloroethane	54.8	1	ug/L	50.0		109	65-130			
1,1,1,2-Tetrachloroethane	43.7	0.4	ug/L	40.0		109	65-130			
1,1,2-Trichloroethane	51.8	1	ug/L	50.0		104	75-125			
1,1-Dichloroethane	51.0	1	ug/L	50.0		102	75-125			
1,1-Dichloroethylene	85.8	1	ug/L	80.0		107	75-125			
1,2-Dichloropropane	48.0	1	ug/L	50.0		96	75-125			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0		100	75-125			
1,2-Dibromoethane	44.4	1	ug/L	40.0		111	75-125			
1,2-Dibromopropane	44.0	1	ug/L	50.0		88	75-125			
1,4-Dichlorobenzene	50.0	1	ug/L	50.0		101	75-125			
2-Butanone (MEK)	48.0	5	ug/L	50.0		96	30-100			
2-Hexanone (MIBK)	41.1	5	ug/L	50.0		82	50-100			
4-Methyl-2-pentanone (MBO)	44.8	5	ug/L	50.0		89	60-120			
Acetone	45.8	10	ug/L	50.0		91	40-140			
Acrylonitrile	208	0	ug/L	200		104	75-125			
Benzene	82.1	1	ug/L	80.0		103	60-120			
Bromochloromethane	54.3	1	ug/L	50.0		109	65-130			
Bromodichloromethane	53.0	0.5	ug/L	50.0		106	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: 88-0013 - 880008										
LOQ: 88-0013-0010										
Prepared & Analyzed: 09/29/2018										
Bromobenzene	50.8	1	ug/L	50.0		101	75-125			
Bromomethane	42.0	1	ug/L	50.0		84.8	30-150			
Carbon disulfide	50.4	10	ug/L	50.0		121	30-150			
Carbon tetrachloride	50.0	1	ug/L	50.0		111	40-140			
Chlorobenzene	50.1	1	ug/L	50.0		100	80-120			
Chloroethane	50.2	1	ug/L	50.0		99.4	80-120			
Chloroform	50.1	0.5	ug/L	50.0		100	80-120			
Chloromethane	44.7	1	ug/L	50.0		89.4	40-120			
cis-1,2-Dichloroethylene	51.1	1	ug/L	50.0		102	70-130			
cis-1,3-Dichloropropene	51.0	1	ug/L	50.0		100	70-130			
Dibromodichloroethane	54.0	0.5	ug/L	50.0		108	80-120			
Dibromomethane	49.8	1	ug/L	50.0		99.7	70-120			
Dichlorodifluoromethane	45.1	1	ug/L	50.0		90.2	30-100			
Ethylbenzene	52.3	1	ug/L	50.0		105	70-120			
trans-1,2-Dichloroethylene	108	2	ug/L	120		108	70-130			
Methylene chloride	40.0	4	ug/L	50.0		80.1	30-140			
Nepenthanol	47.0	1	ug/L	50.0		94.7	50-140			
o-Xylene	49.4	1	ug/L	50.0		98.8	80-120			
Styrene	52.8	1	ug/L	50.0		106	80-120			
trans-1,2-Dichloroethane (PCE)	54.7	1	ug/L	50.0		109	40-150			
Toluene	50.4	1	ug/L	50.0		101	70-120			
trans-1,3-Dichloroethylene	50.1	1	ug/L	50.0		104	80-140			
trans-1,3-Dichloropropene	50.2	1	ug/L	50.0		100	50-140			
Trichloroethylene	52.9	1	ug/L	50.0		106	70-120			
Trichlorofluoromethane	51.4	1	ug/L	50.0		103	80-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
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Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18J0013 - 18J0018										
LOQ (18J0013-18J018)										
				Prepared & Analyzed: 09/28/2018						
Vinyl chloride	49.1	0.5	ug/L	50.0	BLDD	98.2	50-100			
Sum: 1,1-Dichloroethane-d0 (Sum)	47.8		ug/L	50.0	BLDD	95.6	75-120			
Sum: 1,1-Dibromoethane-d0 (Sum)	50.1		ug/L	50.0	BLDD	100	75-120			
Sum: Dibromofluoroethane (Sum)	49.4		ug/L	50.0	BLDD	98.7	75-120			
Sum: Toluene-d8 (Sum)	50.4		ug/L	50.0	BLDD	101	75-120			
Matrix Spike (18J0013-M51)										
				Source: 18J0011-01		Prepared & Analyzed: 09/28/2018				
1,1,1,2-Tetrachloroethane	47.4	0.4	ug/L	50.0	BLDD	94.8	65-100			
1,1,1-Trichloroethane	51.3	1	ug/L	50.0	BLDD	103	65-100			
1,1,2,2-Tetrachloroethane	41.2	0.4	ug/L	50.0	BLDD	82.4	65-100			
1,1,2-Trichloroethane	49.0	1	ug/L	50.0	BLDD	98.0	75-120			
1,1-Dichloroethane	55.9	1	ug/L	50.0	7.12	111.8	75-120			
1,1-Dichloroethylene	47.2	1	ug/L	50.0	BLDD	94.4	75-120			
1,2,3-Trichloropropane	42.1	1	ug/L	50.0	BLDD	84.2	75-120			
1,2-Dichlorobenzene	46.6	1	ug/L	50.0	BLDD	93.2	75-120			
1,2-Dichloroethane	47.3	1	ug/L	50.0	BLDD	94.6	75-120			
1,2-Dichloropropane	45.6	1	ug/L	50.0	0.52	91.2	75-120			
1,4-Dichlorobenzene	50.0	1	ug/L	50.0	3.84	100.8	75-120			
2-Butanone (MEX)	42.4	5	ug/L	50.0	BLDD	84.8	30-100			
2-Hexanone (MEX)	40.0	5	ug/L	50.0	BLDD	79.9	30-100			
4-Methyl-2-pentanone (MEX)	45.1	5	ug/L	50.0	BLDD	90.2	30-100			
Acetone	41.3	10	ug/L	50.0	BLDD	78.6	40-140			
Acrylonitrile	500	5	ug/L	250	BLDD	78.8	75-120			
Benzene	50.6	1	ug/L	50.0	1.80	99.0	60-120			
Bromochloromethane	52.1	1	ug/L	50.0	BLDD	104	65-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch 08-0013 - 090008

Matrix Spike (08-0013-MS1)	Source 10/08/18			Revised & Analyzed 09/20/18						
Bromochloromethane	45.1	0.5	ug/L	50.0	BL00	90.2	75-120			
Bromobenzene	45.3	1	ug/L	50.0	BL00	90.8	75-120			
Bromomethane	26.1	1	ug/L	50.0	BL00	78.2	20-140			
Carbon disulfide	67.8	10	ug/L	50.0	BL00	118	24-160			
Carbon tetrachloride	15.8	1	ug/L	50.0	BL00	100	80-140			
Chlorobenzene	49.2	1	ug/L	50.0	2.84	91.8	80-120			
Chloroethane	49.0	1	ug/L	50.0	2.04	90.8	80-120			
Chloroform	49.4	0.5	ug/L	50.0	BL00	90.7	80-120			
Chloromethane	49.4	1	ug/L	50.0	BL00	84.7	40-120			
cis-1,2-Dichloroethylene	59.0	1	ug/L	50.0	8.87	100	75-120			
cis-1,3-Dichloropropene	45.0	1	ug/L	50.0	BL00	96.1	75-120			
Chloroacetonitrile	51.9	0.5	ug/L	50.0	BL00	100	80-120			
Dibromomethane	48.5	1	ug/L	50.0	BL00	90.0	75-120			
Diphenylacetylene	42.9	1	ug/L	50.0	BL00	85.9	20-120			
Ethylbenzene	47.0	1	ug/L	50.0	BL00	94.8	75-120			
m,p-Xylenes	67.0	2	ug/L	100	BL00	97.4	75-120			
Methylene chloride	48.0	4	ug/L	50.0	BL00	114	50-140			
Naphthalene	48.8	1	ug/L	50.0	BL00	87.7	50-140			
o-Xylene	48.2	1	ug/L	50.0	BL00	92.5	80-120			
Styrene	48.1	1	ug/L	50.0	BL00	88.3	80-120			
Tetrachloroethylene (PCE)	67.4	1	ug/L	50.0	BL00	124	40-120			
Toluene	49.9	1	ug/L	50.0	BL00	97.9	75-120			
trans-1,2-Dichloroethylene	49.8	1	ug/L	50.0	BL00	94.7	80-140			
trans-1,3-Dichloropropene	48.5	1	ug/L	50.0	BL00	93.0	80-140			
Trichloroethylene	49.1	1	ug/L	50.0	0.24	91.4	75-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BBJ0013 - SW5030B										
Matrix Spike (BBJ0013-MS1)										
		Source: 181081-01			Prepared & Analyzed: 09/28/2018					
Trichlorofluoromethane	47.9	1	ug/L	50.0	BLOD	95.8	90-145			
Vinyl chloride	50.5	0.5	ug/L	50.0	3.08	96.8	90-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>										
	49.8		ug/L	50.0		99.6	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>										
	50.7		ug/L	50.0		101	70-120			
<i>Surr: Dibromofluoromethane (Surr)</i>										
	52.8		ug/L	50.0		105	70-130			
<i>Surr: Toluene-d8 (Surr)</i>										
	50.0		ug/L	50.0		100	70-130			
Matrix Spike (Sug) (BBJ0013-MS01)										
		Source: 181081-01			Prepared & Analyzed: 09/28/2018					
1,1,1-Trichloroethane	48.0	0.4	ug/L	50.0	BLOD	92.0	80-130	2.91	30	
1,1,1-Trifluoroethane	47.8	1	ug/L	50.0	BLOD	95.6	65-130	7.06	30	
1,1,2,2-Tetrachloroethane	45.7	0.4	ug/L	50.0	BLOD	87.4	65-130	5.84	30	
1,1,2-Trichloroethane	48.8	1	ug/L	50.0	BLOD	97.7	75-125	0.358	30	
1,1-Dichloroethane	50.6	1	ug/L	50.0	7.17	92.9	70-135	4.05	30	
1,1-Dichloroethylene	44.2	1	ug/L	50.0	BLOD	88.4	70-130	6.58	30	
1,1,2-Trichloropropane	48.5	1	ug/L	50.0	BLOD	91.0	75-125	7.71	30	
1,2-Dichloroethane	45.8	1	ug/L	50.0	BLOD	90.8	70-120	2.09	30	
1,2-Dichloropropane	45.4	1	ug/L	50.0	BLOD	90.9	70-130	4.00	30	
1,2-Dichloropropane	44.2	1	ug/L	50.0	5.52	87.4	75-125	3.07	30	
1,4-Dichlorobenzene	48.9	1	ug/L	50.0	3.84	90.0	75-125	2.82	30	
2-Butanone (MEK)	45.7	5	ug/L	50.0	BLOD	91.5	30-150	7.51	30	
2-Pentanone (MIBK)	43.1	5	ug/L	50.0	BLOD	86.2	30-130	7.83	30	
4-Methyl-2-pentanone (MBOC)	47.0	5	ug/L	50.0	BLOD	94.0	30-130	4.12	30	
Acetone	45.2	10	ug/L	50.0	BLOD	84.8	40-140	6.13	30	
Acrylonitrile	208	5	ug/L	200	BLOD	82.5	75-130	3.28	30	
Benzene	47.8	1	ug/L	50.0	1.80	92.8	90-120	5.54	30	

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: 08-0013 - 000008

Matrix Spike Org (08/09/18-00001)	Source: 18188149	Prepared & Analyzed 09/28/2018								
Bromochloromethane	50.1	1	ug/L	50.0	BLCO	100	85-130	3.90	30	
Bromodichloromethane	49.2	0.5	ug/L	50.0	BLCO	96.4	75-130	1.94	30	
Bromofluoromethane	47.7	1	ug/L	50.0	BLCO	95.4	75-130	5.20	30	
Bromomethane	36.4	1	ug/L	50.0	BLCO	79.9	90-140	1.92	30	
Carbon disulfide	55.7	10	ug/L	50.0	BLCO	111	35-160	3.05	30	
Carbon tetrachloride	48.9	1	ug/L	50.0	BLCO	96.8	80-140	6.75	30	
Chlorobenzene	47.8	1	ug/L	50.0	2.94	90.7	80-130	0.799	30	
Chloroethane	45.6	1	ug/L	50.0	2.94	87.1	80-130	7.14	30	
Chloroform	45.4	0.5	ug/L	50.0	BLCO	90.8	80-130	6.37	30	
Chloromethane	34.0	1	ug/L	50.0	BLCO	77.1	40-130	6.47	30	
cis-1,2-Dichloroethylene	56.2	1	ug/L	50.0	8.87	94.8	75-130	4.88	30	
cis-1,3-Dichloropropene	46.0	1	ug/L	50.0	BLCO	91.8	75-130	4.44	30	
Dibromochloromethane	46.4	0.5	ug/L	50.0	BLCO	98.8	80-130	3.04	30	
Dibromomethane	47.2	1	ug/L	50.0	BLCO	94.4	75-130	1.00	30	
Dichlorodifluoromethane	35.9	1	ug/L	50.0	BLCO	79.9	30-100	7.19	30	
Ethylbenzene	46.4	1	ug/L	50.0	BLCO	90.7	75-130	2.35	30	
trans-1,2-Dichloroethylene	50.5	2	ug/L	100	BLCO	59.5	75-130	4.21	30	
Methylene chloride	45.9	4	ug/L	50.0	BLCO	47.4	50-140	6.69	30	
Naphthalene	32.0	1	ug/L	50.0	BLCO	104	50-140	17.0	30	
p-Xylene	44.3	1	ug/L	50.0	BLCO	88.8	80-130	4.60	30	
Styrene	47.0	1	ug/L	50.0	BLCO	94.9	80-130	3.45	30	
Tetrachloroethylene (PCE)	65.1	1	ug/L	50.0	BLCO	130	40-150	3.62	30	
Toluene	47.0	1	ug/L	50.0	BLCO	90.7	75-130	3.97	30	
trans-1,2-Dichloromethylene	46.3	1	ug/L	50.0	BLCO	90.0	80-140	6.97	30	
trans-1,3-Dichloropropene	46.0	1	ug/L	50.0	BLCO	92.1	50-140	1.04	30	

Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch 09-0013 - 090308

Matrix Spike Prep (09/0013-090308)	Source: 10/10/18	Prepared & Analyzed: 09/28/2018							
Toluene	46.1	1 ug/L	50.0	0.94	91.2	75-125	6.50	50	
Trichloroethylene	44.7	1 ug/L	50.0	BLD	50.4	50-145	7.00	50	
Vinyl chloride	45.8	0.2 ug/L	50.0	2.08	57.1	50-145	10.1	50	
Sum: 1,2-Dichloroethane-d8 (Sum)			49.4	ug/L	50.0	95.7	70-120		
Sum: 4-Bromofluorobenzene (Sum)			51.4	ug/L	50.0	103	75-120		
Sum: Dibromofluoromethane (Sum)			50.1	ug/L	50.0	100	70-130		
Sum: Toluene-d8 (Sum)			50.9	ug/L	50.0	102	70-130		

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
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Batch BB-0010 - BWC009C

Batch (BB-0010-BW17)				Prepared & Analyzed: 10/01/2018						
4-Aminobiphenyl	BLGD	10.0	ug/L							
Is (2-Ethylhexyl) phthalate	BLGD	2.50	ug/L							
Dibenz (a,h) anthracene	BLGD	10.0	ug/L							
Dioctyl phthalate	BLGD	10.0	ug/L							
Di-n-butyl phthalate	BLGD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLGD	10.0	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	85.8		ug/L	100		85.8	10-85			
Sum: 2-Fluorobiphenyl (Sum)	47.2		ug/L	50.0		94.5	9-87			\$
Sum: 2-Fluorophenol (Sum)	31.6		ug/L	100		31.6	10-52			
Sum: Nitrobenzene-d5 (Sum)	42.7		ug/L	50.0		85.3	10-86.5			
Sum: Phenol-d5 (Sum)	33.2		ug/L	100		33.2	5-33			\$
Sum: p-Terphenyl-d14 (Sum)	46.7		ug/L	50.0		93.4	27-133			
LCS (BBJ0010-B31)				Prepared & Analyzed: 10/01/2018						
1,2,4,5-Tetrachlorobenzene	BLGD	10.0	ug/L							0-200
1,3,5-Trinitrobenzene	BLGD	5.00	ug/L							0-200
1,3-Dinitrobenzene	BLGD	2.50	ug/L							0-200
1,4-Naphthoquinone	BLGD	10.0	ug/L							0-200
1-Naphthylamine	BLGD	10.0	ug/L							0-200
2,3,4,6-Tetrachlorophenol	BLGD	10.0	ug/L							0-200
2,4,6-Trichlorophenol	BLGD	10.0	ug/L							50-110
2,4,6-Trichlorophenol	43.8	10.0	ug/L	50.0		87.6	50-110			
2,4-Dichlorophenol	44.8	10.0	ug/L	50.0		89.7	50-100			
2,4-Dimethylphenol	40.2	0.50	ug/L	50.0		80.4	30-110			
2,4-Dichlorophenol	17.8	50.0	ug/L	50.0		115	15-140			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 09-0018 - SW0019C										
LOQ (09-0018-019)										
Prepared & Analyzed: 10/01/2018										
1,4-Dinitrobenzene	53.4	10.0	ug/L	50.0		107	21-99			L
2,4-Dinitrophenol	BL00	10.0	ug/L				0-200			
1,3-Dinitrobenzene	45.2	10.0	ug/L	50.0		90.3	15-140			
2-Acetylaminothiophene	BL00	2.00	ug/L				0-200			
2-Chloroaniline	41.0	10.0	ug/L	50.0		80.0	45-100			
2-Chlorophenol	43.0	10.0	ug/L	50.0		86.0	15-75			L
2-Methylthiophene	BL00	10.0	ug/L				40-100			
2-Naphthylamine	BL00	10.0	ug/L				0-200			
2-Nitrothiophene	39.009	10.0	ug/L				0-200			
2-Nitrophenol	49.2	10.0	ug/L	50.0		92.4	40-110			
1,7-Difluorobenzidine	59.1	10.0	ug/L	50.0		118	20-110			L
1,7-Dimethylbenzidine	BL00	2.00	ug/L				0-200			
1-Methylthiophene	BL00	10.0	ug/L				0-200			
3-Nitrothiophene	39.000	10.0	ug/L				0-200			
4,6-Dinitro-2-methylphenol	50.8	10.0	ug/L	50.0		99.2	40-130			
4-Aminophenyl	BL00	10.0	ug/L				0-200			
4-Bromophenyl phenyl ether	47.7	10.0	ug/L	50.0		95.3	15-110			
4-Chloraniline	BL00	10.0	ug/L				15-110			
4-Chlorophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.3	15-110			
4-Ethoxythiophene	BL00	10.0	ug/L				0-200			
4-Nitrophenol	18.8	10.0	ug/L	50.0		37.0	0-125			
5-Nitro-2-thiophene	BL00	10.0	ug/L				0-200			
7,12-Dimethylbenz (a) anthracene	BL00	10.0	ug/L				0-200			
Azobenzene	42.8	10.0	ug/L	50.0		84.0	27.7-85.8			L
Azobenzylthiophene	49.1	10.0	ug/L	50.0		98.1	50-100			

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	TVOC	SVOC	RPD	RPD Limit	Qual
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Batch: 08-0008 - 000000

LOQ (08-0008-000)

Prepared & Analyzed: 10/10/2018

Acetophenone	41.0	20.0	ug/L	50.0		81.8	0-200			
Anthracene	68.8	10.0	ug/L	50.0		99.8	55-110			
Benzene (a) anthracene	47.8	0.08	ug/L	50.0		90.0	55-110			
Benzene (a) pyrene	49.4	0.10	ug/L	50.0		98.7	55-110			
Benzene (b) fluoranthene	45.8	10.0	ug/L	50.0		97.1	45-120			
Benzene (b,h,i) perylene	42.8	10.0	ug/L	50.0		84.9	40-125			
Benzene (k) fluoranthene	55.8	10.0	ug/L	50.0		112	45-125			
Benzyl alcohol	BL00	20.0	ug/L				0-200			
Is (2-Chloromethyl) methylene	45.8	10.0	ug/L	50.0		91.8	40-125			
Is (2-Chloromethyl) ether	42.8	10.0	ug/L	50.0		85.6	40-125			
1,2-Dicyclo (1-chloropropyl)	39.0	10.0	ug/L	50.0		78.1	40-125			
Is (1-chloroethyl) propanoate	41.4	2.50	ug/L	50.0		82.9	40-125			
Butyl benzyl phthalate	52.0	10.0	ug/L	50.0		106	45-115			
Chlorobenzene	BL00	2.50	ug/L				0-200			
Chrysene	57.8	10.0	ug/L	50.0		116	55-110			L
Dichloro	BL00	2.50	ug/L				0-200			
Diene (a,h) anthracene	50.8	10.0	ug/L	50.0		100	40-125			
Dibenzofuran	BL00	5.00	ug/L				0-200			
Diallyl phthalate	48.8	10.0	ug/L	50.0		97.0	40-130			
Dibutyl	BL00	2.50	ug/L				0-200			
Dimethyl phthalate	46.4	10.0	ug/L	50.0		90.7	25-125			
Di-n-butyl phthalate	53.8	10.0	ug/L	50.0		107	55-115			
Di-n-octyl phthalate	60.0	10.0	ug/L	50.0		121	30-130			
Diphenylamine	BL00	10.0	ug/L				0-200			
Dodecane	BL00	2.50	ug/L				0-200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 080008										
LC9 (08-0008-008)										
Filtered & Analyzed: 10/10/2018										
Ethyl methanesulfonate	BL00	20.0	ug/L				0.200			
Ethyl parathion	BL00	2.50	ug/L				0.200			
Fenflur	BL00	2.50	ug/L				0.200			
Fluoranthene	61.6	10.0	ug/L	60.0		100	60-110			
Fluorene	48.5	10.0	ug/L	50.0		99.8	50-100			
Hexachlorobenzene	66.0	0.05	ug/L	60.0		99.0	20-120			
Hexachlorobutadiene	45.4	10.0	ug/L	50.0		99.9	20-120			
Hexachlorocyclopentadiene	24.8	10.0	ug/L	50.0		49.5	20-120			
Hexachloroethane	16.6	10.0	ug/L	60.0		71.0	20-120			
Hexachloropenta	BL00	2.50	ug/L				0.200			
Indeno (1,2,3-cd) pyrene	46.8	10.0	ug/L	50.0		93.8	45-120			
Isobutyl	BL00	10.0	ug/L				0.200			
Isophorone	42.8	10.0	ug/L	50.0		87.6	10-100			
Isovaleryl	BL00	10.0	ug/L				0.200			
Ketone	BL00	2.00	ug/L				0.200			
meta-Cresol	BL00	10.0	ug/L				50-100			
Methacrylonitrile	BL00	10.0	ug/L				0.200			
Methyl methanesulfonate	BL00	10.0	ug/L				0.200			
Methyl parathion	BL00	2.50	ug/L				0.200			
Naphthalene	41.8	10.0	ug/L	50.0		87.7	40-100			
Nitrobenzene	42.9	10.0	ug/L	50.0		86.1	40-100			
n-Nitrosodibutylamine	BL00	2.00	ug/L				0.200			
n-Nitrosodimethylamine	15.1	10.0	ug/L	50.0		30.1	20-100			
n-Nitrosodi-n-butylamine	BL00	10.0	ug/L				0.200			
n-Nitrosodi-n-propylamine	60.0	10.0	ug/L	50.0		80.1	12-67			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 08-0008 - 090308										
LOQ (08-0918-091)										
Prepared & Analyzed: 10/10/2018										
n-Nitrosodiphenylamine	26.2	10.0	ug/L	50.0		76.2	12-87			
n-Nitrosomethylphenylamine	BL00	2.50	ug/L				25-119			
n-Nitrosopiperidine	BL00	10.0	ug/L				0-200			
n-Nitrosopyrrolidine	BL00	2.50	ug/L				0-200			
o-Cresol	BL00	10.0	ug/L				0-200			
o-Cresol	BL00	10.0	ug/L				40-110			
o-Toluidine	BL00	2.50	ug/L				0-200			
p-Dimethylaminoacetophenone	BL00	2.50	ug/L				0-200			
p-CHloro-nitro	45.4	10.0	ug/L	50.0		90.8	10-81			
Paracetamol	BL00	10.0	ug/L				0-200			
Parachloroacetophenone (sulfolane)	BL00	1.00	ug/L				0-200			
Parachlorophenol	44.2	20.0	ug/L	50.0		88.4	20-100			
Phenacetin	BL00	10.0	ug/L				0-200			
Phenanthrene	51.3	10.0	ug/L	50.0		103	50-110			
Phenol	12.8	10.0	ug/L	50.0		25.6	0-100			
Phenol	BL00	2.50	ug/L				0-200			
p-Fluorophenol	BL00	10.0	ug/L				0-200			
Propene	BL00	10.0	ug/L				0-200			
Pyrene	52.0	10.0	ug/L	50.0		104	27-110			
Salicylic	BL00	2.50	ug/L				0-200			
Sum: 2,4,6-Trichlorophenol (Sum)	102		ug/L	100		102	10-80			3
Sum: 2-Fluorophenol (Sum)	47.8		ug/L	50.0		95.7	0-87			3
Sum: 2-Fluorophenol (Sum)	36.4		ug/L	100		36.4	10-50			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 08-0008 - SW0008

LOQ (08-0014-001)		Prepared & Analyzed: 10/01/2018								
Sum Atrazine-equiv (Sum)	45.1		ug/L	80.0		80.0	10-80.0			
Sum Fluorid (Sum)	37.8		ug/L	100		37.8	1-100			S
Sum p-Toluenesulfonate (Sum)	37.8		ug/L	80.0		118	27-100			

Matrix Spike (08-0010-M01)		Source: 10/01/18		Prepared: 10/01/2018 Analyzed: 10/02/2018						
1,2,4,5-Tetrachlorobenzene	BL00	11.1	ug/L		BL00		0-200			
1,2,6-Trichlorobenzene	BL00	5.58	ug/L		BL00		0-200			
1,3-Dinitrobenzene	BL00	2.79	ug/L		BL00		0-200			
1,4-Dinitrobenzene	BL00	11.1	ug/L		BL00		0-200			
1-Naphthylamine	BL00	11.1	ug/L		BL00		0-200			
2,3,4,6-Tetrahydrophthal	BL00	11.1	ug/L		BL00		0-200			
2,3,5-Trichlorophthal	BL00	11.1	ug/L		BL00		50-110			
2,4,6-Trichlorophthal	47.8	11.1	ug/L	55.8	BL00	88.0	50-115			
2,4-Dichlorophthal	48.4	11.1	ug/L	55.8	BL00	87.1	50-105			
1,4-Dioxinophthal	41.8	11.1	ug/L	55.8	BL00	73.4	30-110			
2,4-Dinitrophenol	85.2	55.8	ug/L	55.8	BL00	153	15-140			M
1,4-Dinitrobenzene	55.7	11.1	ug/L	55.8	BL00	105	17-111			
1,6-Dichlorophthal	BL00	11.1	ug/L		BL00		0-200			
1,5-Dinitrotoluene	48.3	11.1	ug/L	55.8	BL00	87.8	15-140			
2-Acetylaminofluorene	BL00	2.79	ug/L		BL00		0-200			
2-Chloronaphthalene	44.8	11.1	ug/L	55.8	BL00	84.3	45-105			
2-Chlorophthal	44.8	11.1	ug/L	55.8	BL00	80.8	10-84			M
2-Methylnaphthalene	BL00	11.1	ug/L		BL00		45-105			
2-Naphthylamine	BL00	11.1	ug/L		BL00		0-200			
2-Nitroaniline	BL00	10.2	ug/L		BL00		0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 090008										
Matrix Spike (08/09/18-09/1)										
	Source: 10/10/18/01			Prepared: 10/10/2018		Analyzed: 10/10/2018				
2-Terphenyl	54.8	11.1	ug/L	55.8	BL00	91.8	80-115			
2,7-Dichlorodibenzofuran	49.7	11.1	ug/L	55.8	BL00	89.8	10-85			M
2,7-Dimethylbenzofuran	BL00	3.78	ug/L		BL00		0-200			
2-Methylfluoranthene	BL00	11.1	ug/L		BL00		0-200			
3-Methylindole	BL00	22.2	ug/L		BL00		0-200			
4,6-Dimethyl-2-methylphenol	57.8	33.8	ug/L	55.8	BL00	122	80-120			
4-Aminobiphenyl	BL00	11.1	ug/L		BL00		0-200			
4-Bromophenyl phenyl ether	54.8	11.1	ug/L	55.8	BL00	98.2	10-110			
4-Chloroaniline	88.755	11.1	ug/L		BL00		10-110			
4-Chlorophenyl phenyl ether	48.1	11.1	ug/L	55.8	BL00	86.7	10-110			
4-Methylindole	BL00	22.2	ug/L		BL00		0-200			
4-Terphenyl	24.9	33.8	ug/L	55.8	BL00	44.1	0-120			
5-Methyl-2-indole	BL00	11.1	ug/L		BL00		0-200			
7-(2-Chlorophenyl) (x) anthracene	BL00	11.1	ug/L		BL00		0-200			
Acenaphthene	48.1	11.1	ug/L	55.8	BL00	86.8	24-80			
Acenaphthylene	51.4	11.1	ug/L	55.8	BL00	92.4	50-100			
Acenaphthylene	40.4	22.2	ug/L	55.8	BL00	72.2	0-200			
Anthracene	55.9	11.1	ug/L	55.8	BL00	99.9	55-110			
Benz[a]anthracene	58.1	0.58	ug/L	55.8	BL00	108	55-110			
Benz[a]pyrene	51.5	0.51	ug/L	55.8	BL00	92.7	55-110			
Benz[b]fluoranthene	52.1	11.1	ug/L	55.8	BL00	93.8	40-120			
Benz[b]fluoranthene	47.9	11.1	ug/L	55.8	BL00	85.1	40-120			
Benz[b]fluoranthene	55.4	11.1	ug/L	55.8	BL00	99.7	40-120			
Benzyl alcohol	BL00	22.2	ug/L		BL00		0-200			
1,8-Dimethyl-2-naphthyl	48.1	11.1	ug/L	55.8	BL00	86.8	40-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 090008										
Main: Spike (08/08/18-M01)										
	Source: 10/10/18			Prepared: 10/10/2018		Analyzed: 10/09/2018				
Is (2-Chloroethyl) ether	44.2	11.1	ug/L	55.4	BL00	79.5	40-125			
1,2-Dichloro (1-chloroethane)	42.4	11.1	ug/L	55.4	BL00	76.4	40-125			
Is (2-Ethylhexyl) phosphate	45.8	2.78	ug/L	55.4	BL00	82.8	40-125			
Butyl benzyl phosphate	62.0	11.1	ug/L	55.4	BL00	112	40-110			
Chlorobenzene	BL00	2.78	ug/L		BL00		0-200			
Cyclohexane	55.4	11.1	ug/L	55.4	BL00	100	50-110			M
Dichloro	BL00	2.78	ug/L		BL00		0-200			
Dipropyl phosphate	50.8	11.1	ug/L	55.4	BL00	91.4	40-125			
Dibenzofuran	55.700	5.46	ug/L		BL00		0-200			
Diallyl phosphate	54.1	11.1	ug/L	55.4	BL00	97.3	40-120			
Dodecane	BL00	2.78	ug/L		BL00		0-200			
Dioctyl phosphate	44.5	11.1	ug/L	55.4	BL00	80.0	20-125			
Di-n-butyl phosphate	50.2	11.1	ug/L	55.4	BL00	90	50-110			
Di-n-octyl phosphate	54.4	11.1	ug/L	55.4	BL00	101	20-120			
Dibenzylamine	BL00	11.1	ug/L		BL00		0-200			
Decalin	BL00	2.78	ug/L		BL00		0-200			
Ethyl methanesulfonate	BL00	10.2	ug/L		BL00		0-200			
Ethyl parathion	BL00	2.78	ug/L		BL00		0-200			
Fluorfen	BL00	2.78	ug/L		BL00		0-200			
Fluorfenox	55.8	11.1	ug/L	55.4	BL00	100	50-110			
Fluorene	51.6	11.1	ug/L	55.4	BL00	92.9	50-110			
Hexachlorobenzene	54.7	0.08	ug/L	55.4	BL00	100	20-120			
Hexachlorobutadiene	45.9	11.1	ug/L	55.4	BL00	82.4	20-120			
Hexachlorocyclopentadiene	24.3	11.1	ug/L	55.4	BL00	43.8	10-80			
Hexachlorocyclohexane	26.4	11.1	ug/L	55.4	BL00	47.0	20-120			

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: 88-0008 - 880008										
Main: Spike (88-0008-MS1)										
		Source: 18188181		Prepared: 10/02/2018	Analyzed: 10/02/2018					
Propylbenzene	BL00	2.78	ug/L		BL00		0.200			
Indene (1,2,3-ind)ylene	49.4	11.1	ug/L	55.8	BL00	55.8	40-125			
Isobutene	BL00	11.1	ug/L		BL00		0.200			
Isoprene	49.9	11.1	ug/L	49.9	BL00	49.9	10-110			
Isocubane	BL00	11.1	ug/L		BL00		0.200			
Isoprene	BL00	2.78	ug/L		BL00		0.200			
m,p-Cresols	BL00	11.1	ug/L		BL00		0.200			
Methacrylates	BL00	11.1	ug/L		BL00		0.200			
Methyl methacrylate	BL00	11.1	ug/L		BL00		0.200			
Methyl parathion	BL00	2.78	ug/L		BL00		0.200			
Nonhalobenzene	47.2	11.1	ug/L	55.8	BL00	54.8	40-100			
Nonaromatic	49.8	11.1	ug/L	55.8	BL00	52.5	40-100			
n-Nonacosylmethanamine	BL00	2.78	ug/L		BL00		0.200			
n-Nonacosylmethanamide	28.7	11.1	ug/L	55.8	BL00	49.1	20-110			
n-Nonacosyl n-butylamine	BL00	11.1	ug/L		BL00		0.200			
n-Nonacosyl-n-propylamine	43.6	11.1	ug/L	55.8	BL00	39.6	12-67			
n-Nonacosylphenylamine	42.5	11.1	ug/L	55.8	BL00	39.2	12-67			
n-Nonacosylmethylmethanamine	BL00	2.78	ug/L		BL00		0.200			
n-Nonacosylmethylamide	BL00	11.1	ug/L		BL00		0.200			
n-Nonacosylmethylamine	BL00	2.78	ug/L		BL00		0.200			
n,n-Dimethyl phosphorothioate	BL00	11.1	ug/L		BL00		0.200			
n,n-Diethyl n-2-propenyl phosphorothioate	BL00	11.1	ug/L		BL00		0.200			
o,m,p-Cresols	BL00	11.1	ug/L		BL00		0.200			
o-Cresol	BL00	11.1	ug/L		BL00		40-110			
o-Toluidine	BL00	2.78	ug/L		BL00		0.200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
Batch: 1810018 - 1810018										
Matrix Spike (18LJ018-M51)										
	Source: 181981-01			Prepared: 10/10/2018 Analyzed: 10/10/2018						
p-Dimethylamine acetate	BL00	2.78	ug/L		BL00		0-200			
p-Chloro-m-xylol	66.8	11.1	ug/L	66.8	BL00	67.4	10-61			
Perfluorobenzene	BL00	11.1	ug/L		BL00		0-200			
Perfluoromethylbenzene (quintozene)	BL00	1.19	ug/L		BL00		0-200			
Para-chlorophenol	71.7	10.0	ug/L	61.8	BL00	100	17-100			M
Propene	BL00	11.1	ug/L		BL00		0-200			
Phenylolone	57.6	11.1	ug/L	50.8	BL00	704	30-718			
Propyl	21.4	11.1	ug/L	66.7	BL00	66.2	0-165			
Styrene	BL00	2.78	ug/L		BL00		0-200			
p-Phenylenediamine	BL00	11.1	ug/L		BL00		0-200			
Pinacolol	BL00	11.1	ug/L		BL00		0-200			
Pyrene	16.4	11.1	ug/L	66.8	BL00	107	23-710			
Selinol	BL00	2.78	ug/L		BL00		0-200			
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Sum: 1,4-Dichlorophenol (Sum)	100		ug/L	100		608	10-66			S
Sum: 2,4-Dichlorophenol (Sum)	60.0		ug/L	66.8		60.0	0-67			S
Sum: 2,6-Dichlorophenol (Sum)	47.8		ug/L	100		40.0	10-60			
Sum: Nitrobenzene-d5 (Sum)	49.8		ug/L	66.8		60.0	10-66.0			
Sum: Phenol-d5 (Sum)	40.7		ug/L	100		36.8	0-30			S
Sum: p-Toluenol-d14 (Sum)	30.7		ug/L	66.8		64.8	20-100			
<hr/>										
Matrix Spike (18LJ018-M52)										
	Source: 180022-01			Prepared & Analyzed: 10/10/2018						
1,2,4,6-Tetrachlorobenzene	BL00	100	ug/L		BL00		0-200			
1,1,2-Trichlorobenzene	BL00	66.7	ug/L		BL00		0-200			
1,3-Dichlorobenzene	BL00	10.0	ug/L		BL00		0-200			
1,4-Naphthoquinone	BL00	100	ug/L		BL00		0-200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch: 08-0003 - 000000

Matrix Spike (08/09/18-MSD)	Source: 180922-01			Prepared & Analyzed: 10/01/2018						
1-Naphthylamine	BL00	100	ug/L		BL00			0-200		
1,3,4,6-Tetrahydrophthal	BL00	100	ug/L		BL00			0-200		
1,4,5-Trichlorophthal	BL00	100	ug/L		BL00			50-110		
1,4,6-Trichlorophthal	99	100	ug/L	907	BL00	67.9		50-110		
1,4-Dichlorophthal	365	100	ug/L	907	BL00	94.8		50-100		
1,4-Dimethylphthal	644	5.07	ug/L	907	BL00	91.8		20-110		
1,4-Dichlorophthal	708	907	ug/L	907	BL00	708		10-140		
1,4-Dinitrobenzene	999	100	ug/L	907	BL00	99.9		10-111		
1,4-Nitrochlorophthal	8970	100	ug/L		BL00			0-200		
1,5-Dinitrobenzene	401	100	ug/L	907	BL00	67.7		10-140		
1-Acetylnitrofluorene	BL00	50.0	ug/L		BL00			0-200		
1-Chloro-2-nitrobenzene	161	100	ug/L	907	BL00	12.8		40-100		
2-Chlorophthal	354	100	ug/L	907	BL00	50.1		10-64		
2-Methylnaphthalene	BL00	100	ug/L		BL00			40-100		
2-Naphthylamine	BL00	100	ug/L		BL00			0-200		
2-Nitrobenzene	BL00	207	ug/L		BL00			0-200		
2-Toluenophthal	391	100	ug/L	907	BL00	98.8		40-110		
1,7-Dichlorobenzidine	478	100	ug/L	907	BL00	100		10-60		N
1,7-Dimethylbenzidine	BL00	10.0	ug/L		BL00			0-200		
1-Methyl-2-nitrobenzene	BL00	100	ug/L		BL00			0-200		
2-Nitrobenzene	BL00	207	ug/L		BL00			0-200		
4,6-Dinitro-2-methylphthal	624	907	ug/L	907	BL00	90.8		40-100		
4-Aminophenyl	BL00	100	ug/L		BL00			0-200		
4-Bromophenyl phenyl ether	478	100	ug/L	907	BL00	71.7		10-110		
4-Chloraniline	BL00	100	ug/L		BL00			10-110		

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: 08-0003 - 000000										
Main: Spike (08-0003-MSD)										
Source: 18092241										
Prepared & Analyzed: 10/01/2018										
4-Chlorophenyl phenyl ether	408	100	ug/L	607	BL00	61.2	15-110			
4-Nitroaniline	BL00	267	ug/L	607	BL00		0-200			
4-Nitrophenol	220	667	ug/L	607	BL00	30.8	0-100			
4-Terc-o-cresoline	BL00	100	ug/L	607	BL00		0-200			
7-(2-Chlorophenyl) (a) anthracene	BL00	100	ug/L	607	BL00		0-200			
Acenaphthene	388	100	ug/L	607	BL00	57.8	24-80			
Acenaphthylene	414	100	ug/L	607	BL00	62.0	30-100			
Acenaphthylene	347	267	ug/L	607	BL00	52.1	0-200			
Anthracene	195	100	ug/L	607	BL00	29.0	50-110			
Benzo (a) anthracene	388	0.07	ug/L	607	BL00	58.8	50-110			
Benzo (a) pyrene	571	1.50	ug/L	607	BL00	88.7	50-110			
Benzo (b) fluoranthene	577	100	ug/L	607	BL00	88.8	40-120			
Benzo (g,h,i) perylene	466	100	ug/L	607	BL00	74.2	40-120			
Benzo (k) fluoranthene	600	100	ug/L	607	BL00	90.2	40-120			
Benzyl alcohol	BL00	267	ug/L	607	BL00		0-200			
1a (2-Chlorophenyl) methene	370	100	ug/L	607	BL00	56.2	40-120			
1a (2-Chlorophenyl) ether	347	100	ug/L	607	BL00	52.1	40-120			
1,2-Dioxin (1-oxodioxane)	218	100	ug/L	607	BL00	47.3	40-120			
1a (2-Ethylhexyl) phthalate	483	33.3	ug/L	607	BL00	72.8	40-120			
Butyl benzyl phthalate	600	100	ug/L	607	BL00	90.0	40-110			
Chromanthrene	BL00	33.3	ug/L	607	BL00		0-200			
Chrysene	669	100	ug/L	607	BL00	100	50-110			
Dibenz	BL00	33.3	ug/L	607	BL00		0-200			
Dibenz (a,h) anthracene	647	100	ug/L	607	BL00	98.1	40-120			
Dibenzofuran	BL00	66.7	ug/L	607	BL00		0-200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: 08-0018 - 000100										
Main: Spike (08/09/18-M52)										
Source: 180922-01 Filtered & Analyzed: 10/01/2018										
Dethyl pentane	531	100	ug/L	507	BL00	76.7	40-120			
Dodecane	BL00	31.3	ug/L		BL00		0-200			
Dodecyl pentane	468	100	ug/L	507	BL00	88.6	25-125			
Di-n-butyl pentane	470	100	ug/L	507	BL00	94.9	50-110			
Dodecyl pentane	658	100	ug/L	507	BL00	101	30-120			
Diphenylamine	BL00	100	ug/L		BL00		0-200			
Dodecane	BL00	31.3	ug/L		BL00		0-200			
Ethyl methanesulfonate	BL00	267	ug/L		BL00		0-200			
Ethyl pentane	BL00	15.6	ug/L		BL00		0-200			
Fluorur	BL00	31.3	ug/L		BL00		0-200			
Fluorurane	578	100	ug/L	507	BL00	88.8	50-110			
Fluorene	468	100	ug/L	507	BL00	78.4	50-110			
Hexachlorobenzene	538	0.67	ug/L	507	BL00	80.6	20-120			
Hexachlorobiphenyl	519	100	ug/L	507	BL00	47.8	20-120			
Hexachlorocyclopentadiene	189	100	ug/L	507	BL00	27.0	10-60			
Hexachlorocyclohexane	200	100	ug/L	507	BL00	39.7	20-120			
Hexachloronaphthalene	BL00	31.3	ug/L		BL00		0-200			
Indene (1,2,3-adi) pyrene	507	100	ug/L	507	BL00	82.6	40-120			
Isobutane	BL00	100	ug/L		BL00		0-200			
Isophorane	368	100	ug/L	507	BL00	53.8	10-110			
Isopentane	BL00	100	ug/L		BL00		0-200			
Isoprene	BL00	31.3	ug/L		BL00		0-200			
isop-Clouene	BL00	100	ug/L		BL00		0-200			
Methacrylonitrile	BL00	100	ug/L		BL00		0-200			
Methyl methanesulfonate	BL00	100	ug/L		BL00		0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike (BBJ0010-MS2)	Source: 1810922-01			Prepared & Analyzed: 10/01/2018						
Methyl parathion	BLOD	33.3	ug/L		BLOD		0-200			
Naphthalene	358	133	ug/L	667	BLOD	53.8	40-100			
Nitrobenzene	354	133	ug/L	667	BLOD	53.1	40-100			
n-Nitrosodiethylamine	BLOD	33.3	ug/L		BLOD		0-200			
o-Nitrosodimethylamine	175	133	ug/L	667	BLOD	28.3	25-110			
n-Nitrosodipropylamine	BLOD	133	ug/L		BLOD		0-200			
n-Nitrosodipropylamine	330	133	ug/L	667	BLOD	49.8	12-87			
n-Nitrosodiphenylamine	425	133	ug/L	667	BLOD	63.8	12-87			
n-Nitrosodimethylpropylamine	BLOD	33.3	ug/L		BLOD		25-110			
n-Nitrosopentane	BLOD	133	ug/L		BLOD		0-200			
n-Nitrosopyrrolidine	BLOD	33.3	ug/L		BLOD		0-200			
n-Octyl-triethyl-phosphorothioate	BLOD	133	ug/L		BLOD		0-200			
o,o-Diethyl o-2-cyanoethyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200			
o-nonyl-Cresols	BLOD	133	ug/L		BLOD		0-200			
p-Chlorol	BLOD	133	ug/L		BLOD		40-110			
n-Toluene	BLOD	33.3	ug/L		BLOD		0-200			
p-(Dimethylamino) azobenzene	BLOD	33.3	ug/L		BLOD		0-200			
p-Chloro-m-cresol	387	133	ug/L	667	BLOD	58.0	10-81			
Pentafluorobenzene	BLOD	133	ug/L		BLOD		0-200			
Pentafluorobenzene (quinoline)	BLOD	13.3	ug/L		BLOD		0-200			
Pentafluorophenol	560	267	ug/L	667	BLOD	84.0	27-108			
Phenacetin	BLOD	133	ug/L		BLOD		0-200			
Phenanthrene	526	133	ug/L	667	BLOD	61.3	50-114			
Phenol	167	133	ug/L	671	BLOD	24.8	0-110			
Phenols	BLOD	33.3	ug/L		BLOD		0-200			



Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch BBJ0010 - SW3510C

Matrix Spike (BBJ0010-MS2)	Source: 1810922-01			Prepared & Analyzed: 10/01/2018						
p-Phenylenediamine	BLOD	133	ug/L		BLOD		0-200			
Pronamide	BLOD	133	ug/L		BLOD		0-200			
Pyrene	594	133	ug/L	667	BLOD	88.1	25-118			
Safrole	BLOD	33.3	ug/L		BLOD		0-200			
Sum: 2,4,6-Trichlorophenol (Sum)	1120		ug/L	1300		83.9	10-65			
Sum: 2,4-Dichlorophenol (Sum)	398		ug/L	667		59.9	9-67			
Sum: 2-Fluorophenol (Sum)	500		ug/L	1300		37.5	10-62			
Sum: 4-Methoxyphenol (Sum)	440		ug/L	667		67.3	10-66.5			
Sum: m-Terphenol (Sum)	328		ug/L	1300		24.5	5-30			
Sum: p-Terphenol (Sum)	650		ug/L	667		97.5	27-133			
Matrix Spike (ug) (BBJ0010-MS01)	Source: 1810922-01			Prepared: 10/1/2018 Analyzed: 10/02/2018						
1,2,4-Trichlorobenzene	BLOD	11.2	ug/L		BLOD		0-200		20	
1,3,5-Trichlorobenzene	BLOD	5.62	ug/L		BLOD		0-200		20	
1,4-Dichlorobenzene	BLOD	3.91	ug/L		BLOD		0-200		20	
1,4-Dibromobenzene	BLOD	11.2	ug/L		BLOD		0-200		20	
1-Naphthylamine	BLOD	11.2	ug/L		BLOD		0-200		20	
[1,3,5-Trichlorophenol	BLOD	11.2	ug/L		BLOD		0-200		20	
[2,4,6-Trichlorophenol	BLOD	11.2	ug/L		BLOD		50-150		20	
2,4,6-Trichlorophenol	37.7	11.2	ug/L	66.2	BLOD	97.0	50-150	20.8	20	F
2,4-Dichlorophenol	36.7	11.2	ug/L	66.2	BLOD	99.2	50-100	27.4	20	F
2,4-Dimethylphenol	30.8	0.56	ug/L	66.2	BLOD	55.0	30-110	27.4	20	F
2,4-Dinitrophenol	66.1	66.2	ug/L	66.2	BLOD	100	15-140	20.9	20	F
2,4-Dinitrotoluene	45.4	11.2	ug/L	66.2	BLOD	68.8	10-111	25.5	20	F
2,6-Dichlorophenol	BLOD	11.2	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 08-0018 - 000100										
Matrix Spike Dup (08/09/18-0101)										
Source: 181801-01 Prepared: 10/02/2018 Analyzed: 10/02/2018										
2,4-Dinitrotoluene	37.1	11.2	ug/L	50.2	BL00	50.0	15-150	25.2	20	P
2-Acetylaminofluorene	BL00	2.81	ug/L		BL00		0-200		20	
2-Chloronaphthalene	34.8	11.2	ug/L	50.2	BL00	50.0	45-100	25.2	20	P
2-Chlorophenol	20.4	11.2	ug/L	50.2	BL00	50.7	10-60	25.0	20	P
2-Methylnaphthalene	BL00	11.2	ug/L		BL00		65-100		20	
2-Naphthylamine	BL00	11.2	ug/L		BL00		0-200		20	
2-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
2-Nitrophenol	28.2	11.2	ug/L	50.2	BL00	50.2	45-115	28.4	20	P
3,4-Dibromodiphenyl ether	56.5	11.2	ug/L	50.2	BL00	50.0	10-80	25.0	20	P
3,4-Dimethylbenzidine	BL00	2.81	ug/L		BL00		0-200		20	
3-Methylcholanthrene	BL00	11.2	ug/L		BL00		0-200		20	
3-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
4,6-Dinitro-2-methylphenol	54.8	50.2	ug/L	50.2	BL00	37.1	40-130	21.7	20	P
4-Aminodiphenyl ether	BL00	11.2	ug/L		BL00		0-200		20	
4-Bromodiphenyl ether	41.0	11.2	ug/L	50.2	BL00	34.0	15-110	28.2	20	P
4-Chloroanisole	BL00	11.2	ug/L		BL00		10-110		20	
4-Chlorophenyl phenyl ether	30.0	11.2	ug/L	50.2	BL00	50.0	15-110	25.0	20	
4-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
4-Nitrophenol	20.0	50.2	ug/L	50.2	BL00	28.4	0-120	17.8	20	
5-Nitro-2-indole	BL00	11.2	ug/L		BL00		0-200		20	
7,12-Dimethylbenz (a) anthracene	BL00	11.2	ug/L		BL00		0-200		20	
Acenaphthene	37.9	11.2	ug/L	50.2	BL00	47.0	24-90	23.8	20	P
Acenaphthylene	40.0	11.2	ug/L	50.2	BL00	71.1	30-100	25.1	20	P
Acenaphthone	20.0	20.5	ug/L	50.2	BL00	50.1	0-200	25.1	20	P
Anthracene	41.1	11.2	ug/L	50.2	BL00	73.1	30-110	29.0	20	P

Certificate of Analysis

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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limits	RPD	RPD Limit	Qual
Batch: 09-0003 - 090200										
Main: Spike Top (09-0018-0107)										
				Source: 10/10/18	Prepared: 10/10/2018	Analyzed: 10/10/2018				
Benz (a) anthracene	88.9	0.06	ug/L	99.2	BL00	83.6	55-110	21.3	20	P
Benz (a) pyrene	42.2	0.11	ug/L	99.2	BL00	79.2	55-110	19.8	20	
Benz (b) fluoranthene	44.8	11.2	ug/L	99.2	BL00	79.2	45-120	19.7	20	
Benz (k) fluoranthene	39.9	11.2	ug/L	99.2	BL00	64.1	40-120	27.1	20	P
Benz (a) fluoranthene	45.8	11.2	ug/L	99.2	BL00	78.0	40-120	23.2	20	P
Benzyl alcohol	BL00	20.9	ug/L		BL00		0-200		20	
Is (2-Chlorophenyl) methane	36.4	11.2	ug/L	99.2	BL00	94.7	40-120	27.8	20	P
Is (2-Chlorophenyl) ether	39.7	11.2	ug/L	99.2	BL00	69.0	40-120	26.9	20	P
1,2-Dichloro (1,4-Dioxane)	11.9	11.2	ug/L	99.2	BL00	50.8	40-120	35.1	20	P
Is (2-Ethylhexyl) phosphate	37.7	2.81	ug/L	99.2	BL00	67.0	40-120	19.8	20	
Butyl benzyl phosphate	50.2	11.2	ug/L	99.2	BL00	89.4	45-110	21.5	20	P
Chlorobenzene	BL00	2.81	ug/L		BL00		0-200		20	
Chrysene	52.8	11.2	ug/L	99.2	BL00	94.2	55-110	22.8	20	P
Dibenz	BL00	2.81	ug/L		BL00		0-200		20	
Dibenz (a,h) anthracene	28.7	11.2	ug/L	99.2	BL00	88.8	40-120	28.8	20	P
Dibenzofuran	BL00	0.02	ug/L		BL00		0-200		20	
Dibenzyl phosphate	42.7	11.2	ug/L	99.2	BL00	78.0	40-120	23.5	20	P
Dodecane	BL00	2.81	ug/L		BL00		0-200		20	
Dimethyl phosphate	38.7	11.2	ug/L	99.2	BL00	68.8	25-120	24.2	20	P
D-n-butyl phosphate	48.5	11.2	ug/L	99.2	BL00	88.2	55-110	21.8	20	P
Dimethyl phosphate	47.4	11.2	ug/L	99.2	BL00	94.4	20-120	17.2	20	
Diphenylamine	BL00	11.2	ug/L		BL00		0-200		20	
Decalin	BL00	2.81	ug/L		BL00		0-200		20	
Ethyl methanesulfonate	BL00	20.9	ug/L		BL00		0-200		20	
Ethyl parathion	BL00	2.81	ug/L		BL00		0-200		20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC Limit	NRSC Limit	RPD	RPD Limit	Qual
Batch: 09-0018 - 090309										
Main: Spike Drop (09/01/18-09/07/18)										
Source: 18188149										
Prepared: 10/1/2018 Analyzed: 10/02/2018										
Formaldehyde	BL00	2.91	ug/L		BL00	0.200	0.200		20	
Fluorobenzene	49.2	11.2	ug/L	50.2	BL00	50.4	50-110	22.3	20	P
Fluorene	48.7	11.2	ug/L	50.2	BL00	72.8	50-110	23.4	20	P
Hexachlorobenzene	44.1	9.99	ug/L	50.2	BL00	79.9	20-120	29.3	20	P
Hexafluorobenzene	54.3	11.2	ug/L	50.2	BL00	81.7	20-120	28.8	20	P
Heptachlorocyclopentadiene	17.1	11.2	ug/L	50.2	BL00	20.4	10-60	24.9	20	P
Heptachlorobenzene	28.9	11.2	ug/L	50.2	BL00	81.8	20-120	30.7	20	P
Heptachloropropane	BL00	2.91	ug/L		BL00	0.200	0.200		20	
Isobutene (1,3-Butadiene) pyrene	57.7	11.8	ug/L	50.2	BL00	67.6	40-120	27.1	20	P
Isotrin	BL00	11.2	ug/L		BL00	0.200	0.200		20	
Naphthalene	35.2	11.2	ug/L	50.2	BL00	62.7	10-110	26.4	20	P
Nonahalo	BL00	11.2	ug/L		BL00	0.200	0.200		20	
Napene	BL00	2.91	ug/L		BL00	0.200	0.200		20	
Ortho-Cresol	BL00	11.2	ug/L		BL00	0.200	0.200		20	
Methyl Ethyl Ketone	BL00	11.2	ug/L		BL00	0.200	0.200		20	
Methyl methanesulfonate	BL00	11.2	ug/L		BL00	0.200	0.200		20	
Methyl parathion	BL00	2.91	ug/L		BL00	0.200	0.200		20	
Naphthalene	56.3	11.2	ug/L	50.2	BL00	60.4	40-100	26.8	20	P
Nitrobenzene	54.8	11.2	ug/L	50.2	BL00	61.8	40-100	26.1	20	P
n-Nitrosodimethylamine	BL00	2.91	ug/L		BL00	0.200	0.200		20	
n-Nitrosodimethylamine	20.9	11.2	ug/L	50.2	BL00	37.2	20-110	24.4	20	P
n-Nitrosodipropylamine	BL00	11.2	ug/L		BL00	0.200	0.200		20	
n-Nitrosodipropylamine	33.9	11.2	ug/L	50.2	BL00	60.3	10-60	26.1	20	P
n-Nitrosodiphenylamine	32.5	11.2	ug/L	50.2	BL00	57.6	10-60	26.2	20	P
n-Nitrosodimethylamine	BL00	2.91	ug/L		BL00	0.200	0.200		20	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: 09-0003 - 090309C										
Main: Spike Drop (09/0018-0907)										
Source: 181881-01 Filtered: 10/02/2018 Analyzed: 10/02/2018										
n-Nitrosopyrrolidine	BL00	11.2	ug/L		BL00		0-200		20	
n-Nitrosopyrrolidine	BL00	2.81	ug/L		BL00		0-200		20	
n,n-Dimethyl phosphonotriamide	BL00	11.2	ug/L		BL00		0-200		20	
n,n-Diethyl n-2-pyrrolidyl phosphonotriamide	BL00	11.2	ug/L		BL00		0-200		20	
nonylDecane	BL00	11.2	ug/L		BL00		0-200		20	
n-Octane	BL00	11.2	ug/L		BL00		80-110		20	
n-Undecane	BL00	2.81	ug/L		BL00		0-200		20	
p-Dimethylamino azobenzene	BL00	2.81	ug/L		BL00		0-200		20	
p-Fluorobenzene	37.7	11.2	ug/L	98.2	BL00	67.2	10-50	25.1	20	F
Permethrin	BL00	11.2	ug/L		BL00		0-200		20	
Pentafluorobenzene (external)	BL00	1.12	ug/L		BL00		0-200		20	
Permethrin	38.3	22.9	ug/L	98.2	BL00	100	27-100	26.8	20	F
Phenol	BL00	11.2	ug/L		BL00		0-200		20	
Phenylene	42.1	11.2	ug/L	98.2	BL00	73.0	20-110	21.1	20	F
Phenyl	16.8	11.2	ug/L	98.7	BL00	28.1	0-100	28.0	20	F
Phenyl	BL00	2.81	ug/L		BL00		0-200		20	
p-Phenylene diamine	BL00	11.2	ug/L		BL00		0-200		20	
Propene	BL00	11.2	ug/L		BL00		0-200		20	
Pyrene	45.8	11.2	ug/L	98.2	BL00	81.1	25-110	28.2	20	F
Salicylic	BL00	2.81	ug/L		BL00		0-200		20	
Sum 2,4,6-Trinitrophenol (Sum)	83.8		ug/L	113		83.8	10-50			
Sum 2-Fluorophenyl (Sum)	37.6		ug/L	98.2		66.8	2-87			
Sum 2-Fluorophenyl (Sum)	37.9		ug/L	112		32.7	10-50			
Sum Minderamere-05 (Sum)	26.8		ug/L	98.2		80.4	10-88.2			
Sum Phenol-05 (Sum)	21.5		ug/L	112		27.8	2-22			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 08-0003 - 080208										
Matrix Spike Dup (08-0010-0802)										
Source: 181881-01 Prepared: 10/02/2018 Analyzed: 10/02/2018										
Sum p-Naphthyl+14 (Sum)	26.8		ug/L	26.7	26.8		27-133			
Matrix Spike Dup (08-0010-0802)										
Source: 180922-01 Prepared: 10/02/2018 Analyzed: 10/02/2018										
1,2,4,5-Tetrachlorobenzene	BLOD	133	ug/L		BLOD		0-200		20	
1,2,5-Trichlorobenzene	BLOD	66.7	ug/L		BLOD		0-200		20	
1,3-Dichlorobenzene	51.05	25.5	ug/L		BLOD		0-200		20	
1,4-Naphthoquinone	BLOD	133	ug/L		BLOD		0-200		20	
1-Naphthylamine	BLOD	133	ug/L		BLOD		0-200		20	
1,1,4,4-Tetrachlorophenol	BLOD	133	ug/L		BLOD		0-200		20	
2,4,6-Trichlorophenol	BLOD	133	ug/L		BLOD		50-110		20	
2,4,6-Trichlorophenol	365	133	ug/L	667	BLOD	57.6	50-115	0.136	20	
2,4-Dichlorophenol	276	133	ug/L	667	BLOD	56.2	50-105	2.45	20	
2,4-Dimethylphenol	668	6.67	ug/L	667	BLOD	53.8	30-110	4.14	20	
2,4-Dichlorophenol	791	667	ug/L	667	BLOD	113	15-140	6.88	20	
1,4-Dichlorobenzene	414	133	ug/L	667	BLOD	92.4	17-111	2.74	20	
1,4-dichlorophenol	BLOD	133	ug/L		BLOD		0-200		20	
1,5-Dichlorobenzene	425	133	ug/L	667	BLOD	63.4	15-140	6.47	20	
2-Acetylaminofluorene	BLOD	33.3	ug/L		BLOD		0-200		20	
2-Chloronaphthalene	364	133	ug/L	667	BLOD	53.1	45-105	1.02	20	
2-Chlorophenol	295	133	ug/L	667	BLOD	52.2	16-64	0.167	20	
2-Methylnaphthalene	BLOD	133	ug/L		BLOD		45-105		20	
2-Naphthylamine	BLOD	133	ug/L		BLOD		0-200		20	
2-Nitroaniline	BLOD	267	ug/L		BLOD		0-200		20	
2-Nitrophenol	364	133	ug/L	667	BLOD	53.1	45-115	0.564	20	
1,7-Dichloronaphthalene	712	133	ug/L	667	BLOD	107	15-65	4.74	20	14

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike Dup (BBJ0010-MSD2)										
Source: 1810922-01 Prepared: 10/02/2018 Analyzed: 10/02/2018										
3,3'-Dimethylbenzidine	BLOD	33.3	ug/L		BLOD		0-200			20
3-Methylcholanthrene	BLOD	133	ug/L		BLOD		0-200			20
3-Nitroaniline	BLOD	267	ug/L		BLOD		0-200			20
4,6-Dinitro-2-methylphenol	671	667	ug/L	667	BLOD	104	40-120	7.35		20
4-Aminobiphenyl	BLOD	133	ug/L		BLOD		0-200			20
4-Bromophenyl phenyl ether	447	443	ug/L	447	BLOD	67.1	15-115	6.62		20
4-Chloroaniline	BLOD	133	ug/L		BLOD		15-115			20
4-Chlorophenyl phenyl ether	249	133	ug/L	447	BLOD	67.8	15-115	6.58		20
4-Nitroaniline	89.09	897	ug/L		BLOD		0-200			20
4-Nitrophenol	218	897	ug/L	667	BLOD	32.4	0-120	3.42		20
5-Nitro-2-thiadiazole	BLOD	133	ug/L		BLOD		0-200			20
7,7'-Dinitrofluorene (a) anthracene	BLOD	133	ug/L		BLOD		0-200			20
Anthracene	389	133	ug/L	667	BLOD	58.4	24-80	0.898		20
Acenaphthylene	414	133	ug/L	667	BLOD	52.1	20-100	0.2967		20
Acenaphthene	358	267	ug/L	667	BLOD	53.8	0-200	2.09		20
Anthracene	513	133	ug/L	667	BLOD	77.8	30-110	1.54		20
Benzo (a) anthracene	505	8.97	ug/L	667	BLOD	68.0	30-110	4.55		20
Benzo (a) pyrene	611	1.33	ug/L	667	BLOD	61.6	30-110	6.06		20
Benzo (b) fluoranthene	654	133	ug/L	667	BLOD	93.8	40-120	4.55		20
Benzo (g,h,i) perylene	531	133	ug/L	667	BLOD	78.7	40-120	7.37		20
Benzo (k) fluoranthene	694	133	ug/L	667	BLOD	104	40-120	5.81		20
Benzyl alcohol	BLOD	267	ug/L		BLOD		0-200			20
1a (2-Chloromethyl) methane	363	133	ug/L	667	BLOD	64.8	40-120	3.15		20
1a (2-Chloromethyl) ether	347	133	ug/L	667	BLOD	62.1	40-120	6.00		20
2,2'-Oxybis (1-chloropropane)	313	133	ug/L	667	BLOD	47.0	40-120	3.679		20

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill
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Date Issued: 10/10/2018 4:26:32PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike Dup (BBJ0010-MSD2)		Source: 1810922-01			Prepared: 10/01/2018 Analyzed: 10/02/2018					
bis (2-Ethylhexyl) phthalate	516	33.3	ug/L	667	BL00	77.8	80-125	8.51	20	
Butyl benzyl phthalate	662	133	ug/L	667	BL00	99.3	80-115	4.85	20	
Chlorobenzilate	BL00	33.3	ug/L	667	BL00		0-200		20	
Chrysene	726	133	ug/L	667	BL00	109	65-110	4.13	20	
Dibale	BL00	33.3	ug/L	667	BL00		0-200		20	
Dibenz (a,h) anthracene	529	133	ug/L	667	BL00	93.8	80-125	5.80	20	
Dibenzofuran	BL00	66.7	ug/L	667	BL00		0-200		20	
Dibutyl phthalate	527	133	ug/L	667	BL00	78.1	40-100	5.781	20	
Dioctyl sebacate	BL00	79.3	ug/L	667	BL00		0-200		20	
Dioctyl phthalate	433	133	ug/L	667	BL00	64.8	25-125	4.31	20	
Dio-n-butyl phthalate	548	133	ug/L	667	BL00	87.3	55-115	2.33	20	
Dioctyl phthalate	717	133	ug/L	667	BL00	108	35-125	5.21	20	
Dibenzylamine	BL00	133	ug/L	667	BL00		0-200		20	
Dodecane	BL00	33.3	ug/L	667	BL00		0-200		20	
Ethyl methacrylate	BL00	267	ug/L	667	BL00		0-200		20	
Octyl parathion	BL00	33.3	ug/L	667	BL00		0-200		20	
Paraphur	BL00	33.3	ug/L	667	BL00		0-200		20	
Fluoranthene	417	133	ug/L	667	BL00	62.8	55-115	4.43	20	
Fluorene	444	133	ug/L	667	BL00	66.8	50-110	5.58	20	
Hexachlorobenzene	528	6.67	ug/L	667	BL00	78.1	25-125	1.88	20	
Hexachlorobutadiene	327	133	ug/L	667	BL00	49.0	20-125	2.31	20	
Hexachlorocyclopentadiene	187	133	ug/L	667	BL00	28.0	10-80	3.78	20	
Hexachloroethane	268	133	ug/L	667	BL00	39.7	25-125	0.2804	20	
Hexachloropropene	BL00	33.3	ug/L	667	BL00		0-200		20	
Indene (1,2,3-cd) pyrene	381	133	ug/L	667	BL00	56.8	45-125	5.90	20	



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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch BBJ0010 - SW3510C

Matrix Spike Dup (BBJ0010-MSD2)	Source: 1810922-01			Prepared: 10/01/2018 Analyzed: 10/02/2018						
Isodrin	BLOD	133	ug/L		BLOD		0-200		20	
Isophorone	365	133	ug/L	667	BLOD	34.8	10-110	1.77	20	
Isosafrole	BLOD	133	ug/L		BLOD		0-200		20	
Kepon	BLOD	33.3	ug/L		BLOD		0-200		20	
m-xyl-Cresole	BLOD	133	ug/L		BLOD		0-200		20	
Isobutyronitrile	BLOD	133	ug/L		BLOD		0-200		20	
Methyl methanesulfonate	BLOD	133	ug/L		BLOD		0-200		20	
Methyl parathion	BLOD	33.3	ug/L		BLOD		0-200		20	
Perchloroethane	599	133	ug/L	667	BLOD	50.4	40-100	5.19	20	
Permethrin	30.3	133	ug/L	667	BLOD	52.8	40-100	2.604	20	
n-Nitrosodibutylamine	BLOD	33.3	ug/L		BLOD		0-200		20	
n-Nitrosodimethylamine	177	133	ug/L	667	BLOD	20.8	20-110	24.7	20	M, P
n-Nitrosodi-n-butylamine	BLOD	133	ug/L		BLOD		0-200		20	
n-Nitrosodi-n-propylamine	343	133	ug/L	667	BLOD	21.0	12-87	2.90	20	
n-Nitrosodiphenylamine	470	133	ug/L	667	BLOD	21.0	12-87	3.54	20	
n-Nitrosomethylpropylamine	BLOD	33.3	ug/L		BLOD		20-110		20	
n-Nitrosopentane	BLOD	133	ug/L		BLOD		0-200		20	
n-Nitrosopyrrolidine	BLOD	33.3	ug/L		BLOD		0-200		20	
n,n-Dimethyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200		20	
n,n-Diethyl o-2-pyridyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200		20	
o-xyl-Cresole	BLOD	133	ug/L		BLOD		0-200		20	
o-Cresol	BLOD	133	ug/L		BLOD		40-110		20	
o-Toluidine	BLOD	33.3	ug/L		BLOD		0-200		20	
p-(Dimethylamino) acetanilide	BLOD	33.3	ug/L		BLOD		0-200		20	
p-Chloro-m-cresol	380	133	ug/L	667	BLOD	38.8	10-91	1.47	20	



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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike Dup (BBJ0010-MSD2)										
		Source: 1810922-01			Prepared: 10/01/2018		Analyzed: 10/02/2018			
Pentachlorobenzene	BLOD	133	ug/L		BLOD		0-200		20	
Pentachloronitrobenzene (quintozone)	BLOD	13.3	ug/L		BLOD		0-200		20	
Pentachlorophenol	574	267	ug/L	667	BLOD	88.1	27-109	2.47	20	
Phenacetin	BLOD	133	ug/L		BLOD		0-200		20	
Phenanthrene	542	133	ug/L	667	BLOD	61.3	50-115	1.24	20	
Phenol	159	133	ug/L	673	BLOD	23.7	0-115	4.65	20	
Phorate	BLOD	33.3	ug/L		BLOD		0-200		20	
p-Phenylenediamine	BLOD	133	ug/L		BLOD		0-200		20	
Pronamide	BLOD	133	ug/L		BLOD		0-200		20	
Pyrene	650	133	ug/L	667	BLOD	97.5	23-110	9.05	20	
Safrole	BLOD	33.3	ug/L		BLOD		0-200		20	
Surr: 2,4,6-Tribromophenol (Surr)	1030		ug/L	1330		76.9	10-65			
Surr: 2-Fluorobiphenyl (Surr)	390		ug/L	667		58.5	9-67			
Surr: 3-Fluorophenol (Surr)	303		ug/L	1330		22.8	10-52			
Surr: Nitrobenzene-d5 (Surr)	372		ug/L	667		55.8	10-98.5			
Surr: Phenol-d5 (Surr)	304		ug/L	1330		22.8	5-33			
Surr: p-Terphenyl-d14 (Surr)	695		ug/L	667		104	27-133			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch 05-0082 - 050309										
Blank (05-0082-0547)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L							
Sum: TCMX	0.149		ug/L	0.200		75.0	18-112			
Sum: DCB	0.160		ug/L	0.200		75.0	27-131			
LCS (05-0082-0517)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
Sum: TCMX	0.110		ug/L	0.200		55.0	18-112			
Sum: DCB	0.150		ug/L	0.200		75.0	27-131			
LCS (05-0082-052)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Sum: TCMX	0.150		ug/L	0.200		75.0	18-112			
Sum: DCB	0.150		ug/L	0.200		75.0	27-131			
LCS (05-0082-053)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Sum: TCMX	0.130		ug/L	0.200		60.0	18-112			
Sum: DCB	0.160		ug/L	0.200		75.0	27-131			

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Organizations Participated by OCECO - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BR-0128 - BWC019C										
Blank (BR-0128-BLANK)										
				Prepared: 10/03/2018 Analyzed: 10/08/2018						
2,4,6-T	BLOD	0.500	ug/L							
Sum OCAS (Sum)	1.08		ug/L	5.00		99.8	99.112			
LCS (BR-0128-BL)										
				Prepared: 10/03/2018 Analyzed: 10/08/2018						
2,4,6-T	0.667	0.500	ug/L	0.500		120	53-144			
Sum OCAS (Sum)	0.844		ug/L	5.00		85.0	60-112			
Matrix Spike (BR-0128-MS1)										
				Source: BR1001-01 Prepared: 10/03/2018 Analyzed: 10/08/2018						
2,4,6-T	0.555	0.500	ug/L	0.555	BLOD	90.0	53-144			
Sum OCAS (Sum)	1.11		ug/L	5.00		100	60-112			
Matrix Spike Dup (BR-0128-MS1)										
				Source: BR1001-01 Prepared: 10/03/2018 Analyzed: 10/08/2018						
2,4,6-T	0.598	0.500	ug/L	0.598	BLOD	100	53-144	10.5	20	
Sum OCAS (Sum)	0.944		ug/L	5.00		88.0	60-112			

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Monitored/Analyzed by: GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 090011										
Blank (08-0008-BLANK) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	BL000	0.010	ug/L							
1,2,3-Trichloropropane	BL000	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL000	0.010	ug/L							
LC8 (08-0008-01) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.503	0.010	ug/L	0.250		121	65-135			
1,2,3-Trichloropropane	0.272	0.010	ug/L	0.250		109	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.277	0.010	ug/L	0.250		111	65-135			
LC8 (up) (08-0008-01) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.315	0.010	ug/L	0.250		126	65-135	4.02	20	
1,2,3-Trichloropropane	0.276	0.010	ug/L	0.250		110	65-135	1.46	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.282	0.010	ug/L	0.250		113	65-135	1.67	20	
Main Sample (08-0008-M1) Source: 101001-01 Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.260	0.010	ug/L	0.250	BL000	103	65-135			
1,2,3-Trichloropropane	0.250	0.010	ug/L	0.250	BL000	98.2	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.210	0.010	ug/L	0.250	BL000	124	65-135			
Main Spike (up) (08-0008-M101) Source: 101001-01 Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.267	0.010	ug/L	0.261	BL000	102	65-135	0.026	20	
1,2,3-Trichloropropane	0.251	0.010	ug/L	0.261	BL000	98.3	65-135	0.621	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.308	0.010	ug/L	0.261	BL000	118	65-135	3.44	20	

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 08-0004 - No Prog Wet Chem										
Blank (08-0004-BLANK)										
Sulfide	BLDG	1.00	mg/L							
LCS (08-0004-001)										
Sulfide	0.05	1	mg/L	0.05		101	90-110			
LCS Dup (08-0004-002)										
Sulfide	0.04	1	mg/L	0.05		91	80-110	0.140	10	
Matrix Spike (08-0004-MR1)										
Sulfide	1.15	1.00	mg/L	0.00	BLDG	66.8	75-110			NS
Matrix Spike Dup (08-0004-MR2)										
Sulfide	1.10	1.00	mg/L	0.00	BLDG	66.0	75-110	0.900	10	NS

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Trace) by EPA 8220/8210/8230 Methods			Preparation Method: EPA200.8/821.0		
181076-01	50.0 mL / 50.0 mL	8220/100	8220017	55.0110	AJ80018
181076-01	50.0 mL / 50.0 mL	8220/100C	8220017	55.0127	AJ80044
181076-02	50.0 mL / 50.0 mL	8220/100	8220017	55.0183	AJ80018
181076-02	50.0 mL / 50.0 mL	8220/100C	8220017	55.0127	AJ80044
Metals (Trace) by EPA 8210/8230/8240/8250 Methods			Preparation Method: EPA200.8/821.4		
181076-01	50.0 mL / 50.0 mL	8210/204	8210000	55.0040	AJ80013
181076-01	50.0 mL / 50.0 mL	8230/204	8230000	55.0110	AJ80021
181076-01	50.0 mL / 50.0 mL	8240/204	8240000	55.0040	AJ80013
181076-02	50.0 mL / 50.0 mL	8250/204	8250000	55.0110	AJ80021
Met Chemistry Analysis			Preparation Method: No Prep Wet Chem		
181076-01	4.00 mL / 4.00 mL	8262/15	8262014	55.0043	
181076-02	4.00 mL / 4.00 mL	8262/15	8262014	55.0043	
Nonhalogenated Organic Compounds by GC/MS			Preparation Method: 8263/140		
181076-01	500 mL / 1.00 mL	8263/140	8263010	55.0126	n/80001
181076-02	500 mL / 1.00 mL	8263/140	8263010	55.0126	n/80001
181076-01	500 mL / 1.00 mL	8263/140	8263010	55.0126	AJ80143
181076-02	500 mL / 1.00 mL	8263/140	8263010	55.0126	AJ80143
181076-01	500 mL / 1.00 mL	8263/140	8263010	55.0126	n/80001

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides by GC/ECD					
181076-01	500 mL / 10.00 mL	SW3510A	SBJ029	SBJ0294	AG80138
Organochlorine Pesticides by GC/ECD					
181076-01	5.00 mL / 0.05 mL	SW5030B	SBJ007	SBJ0007	A180065
181076-02	5.00 mL / 0.05 mL	SW5030B	SBJ007	SBJ0007	A180065
181076-03	5.00 mL / 0.05 mL	SW5030B	SBJ007	SBJ0007	A180065
Metals (Total) by EPA 8000/7000 Series Methods					
181076-01	20.0 mL / 20.0 mL	SW7470A	SBJ0132	SBJ0201	A180039
181076-02	20.0 mL / 20.0 mL	SW7470A	SBJ0217	SBJ0250	A180047
Micro-extractables by GC/ECD					
181076-01	59.8 mL / 2.00 mL	SW8011	SBJ0099	SBJ0108	A180045
181076-02	59.5 mL / 2.00 mL	SW8011	SBJ0099	SBJ0108	A180045
181076-03	58.2 mL / 2.00 mL	SW8011	SBJ0099	SBJ0108	A180045

Certificate of Analysis

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EM6110C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM6334A in Non-Potable Water	
Antimony	VELAPNC.WVDEP
Arsenic	VELAPWDEP
Thallium	VELAPWVDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WVDEP
EM8211 in Non-Potable Water	
1,2-Dibromoethane (DBE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-5-chloropropane (DBCP)	VELAPNC
EM8218 in Non-Potable Water	
Endosulfan sulfate	NC.VELAPWVDEP

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Certified Analyses included in this Report

Analyte	Certification
SW614 in Non-Potable Water	
2,4,5-T	VELAP NC
SW614B in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC, VELAP W/DEP
1,1,1-Trichloroethane	NC, VELAP W/DEP
1,1,2,2-Tetrachloroethane	NC, VELAP W/DEP
1,1,2-Trichloroethane	NC, VELAP W/DEP
1,1-Dichloroethane	NC, VELAP W/DEP
1,1-Dichloroethylene	NC, VELAP W/DEP
1,2,3-Trichloropropane	NC, VELAP W/DEP
1,2-Dichloropropane	NC, VELAP W/DEP
1,3-Dichloropropane	NC, VELAP W/DEP
1,2-Dichloroethane	NC, VELAP W/DEP
1,4-Dichlorobenzene	NC, VELAP W/DEP
3-Butanone (MIBK)	NC, VELAP W/DEP
2-Hexanone (MIBK)	NC, VELAP W/DEP
4-Methyl-2-pentanone (MIBK)	NC, VELAP W/DEP
Acetone	NC, VELAP W/DEP
Acrylonitrile	NC, VELAP W/DEP
Benzene	NC, VELAP W/DEP
Bromochloromethane	NC, VELAP W/DEP
Bromodichloromethane	NC, VELAP W/DEP
Bromofluoromethane	NC, VELAP W/DEP
Bromomethane	NC, VELAP W/DEP
Carbon disulfide	NC, VELAP W/DEP
Carbon tetrachloride	NC, VELAP W/DEP
Chlorobenzene	NC, VELAP W/DEP
Chloroethane	NC, VELAP W/DEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Certified Analyses included in this Report

Analyte	Certification
Chloroform	NC, NELAP, WYDEP
Chloroethane	NC, NELAP, WYDEP
cis-1,2-Dichloroethylene	NC, NELAP, WYDEP
cis-1,3-Dichloropropene	NC, NELAP, WYDEP
Dibromochloromethane	NC, NELAP, WYDEP
Dibromomethane	NC, NELAP, WYDEP
Dichlorodifluoromethane	NC, NELAP, WYDEP
Ethylbenzene	NC, NELAP, WYDEP
Isobutane	NC, NELAP, WYDEP
Isobutyl Alcohol	NC, NELAP, WYDEP
m-xylene	NC, NELAP, WYDEP
Methylene chloride	NC, NELAP, WYDEP
Naphthalene	NC, NELAP, WYDEP
o-Xylene	NC, NELAP, WYDEP
Styrene	NC, NELAP, WYDEP
Tetrachloroethylene (PCE)	NC, NELAP, WYDEP
Toluene	NC, NELAP, WYDEP
trans-1,2-Dichloroethylene	NC, NELAP, WYDEP
trans-1,3-Dichloropropene	NC, NELAP, WYDEP
trans-1,4-Dichloro-2-butene	NC, NELAP, WYDEP
Trichloroethylene	NC, NELAP, WYDEP
Trichlorofluoromethane	NC, NELAP, WYDEP
Vinyl acetate	NC, NELAP, WYDEP
Vinyl chloride	NC, NELAP, WYDEP
Xylenes, Total	NC, NELAP, WYDEP
EMPTMS in Non-Potable Water	
4-Aminobiphenyl	NC, NELAP, WYDEP
bis (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Certified Analyses included in this Report

Analyte	Certifications
Dibenz (a,h) anthracene	NC,VELAP,WVDEP
Dialyl phthalate	NC,VELAP,WVDEP
Di-n-butyl phthalate	NC,VELAP,WVDEP
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
EM9218 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MDDE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2018
VELAP Certificate #4337	NELAC-Virginia Certificate #9619	460021	06/14/2019
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:26:32PM

Qualifiers and Definitions

E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1018, 1021, 1232, 1248, 1254, 1260, 1262, and 1268.



1001 Highway 100
 Houston, Texas 77055
 281.488.8800
 www.airwaterandsoil.com

State of Texas
 Form 1302
 Revised 1-15-2013

CHAIN OF CUSTODY

Page 1 of 1

COMPANY NAME: Aqua Engineering, Inc. PROJECT NO.: Engineering Services
 CONTACT: John Smith SITE NAME: Industrial Site
 ADDRESS: 1234 Main St, Houston, TX 77001 PROJECT NUMBER: 123456
 PHONE # 281-555-1234 FAX # 281-555-5678
 E-MAIL: john@aquae.com
 Is sample for compliance testing? YES NO
 SAMPLES USED (PRINT) 3/10/13 SAMPLES REQUIRED 3/10/13
 SAMPLES USED (PRINT) 3/10/13 SAMPLES REQUIRED 3/10/13

CLIENT SAMPLE ID	DATE	TIME	LOCATION	DEPTH	CONTAINER	PRESERVATION	ANALYSIS (PRELIMINARY)				COMMENTS	
							PH	TEMP	DO	TURB		
1	3/10/13	10:00	Site 1	0.5	100ml	None						
2	3/10/13	10:05	Site 1	1.0	100ml	None						
3	3/10/13	10:10	Site 1	1.5	100ml	None						
4	3/10/13	10:15	Site 1	2.0	100ml	None						
5	3/10/13	10:20	Site 1	2.5	100ml	None						
6	3/10/13	10:25	Site 1	3.0	100ml	None						
7	3/10/13	10:30	Site 1	3.5	100ml	None						
8	3/10/13	10:35	Site 1	4.0	100ml	None						
9	3/10/13	10:40	Site 1	4.5	100ml	None						
10	3/10/13	10:45	Site 1	5.0	100ml	None						

ANALYST: John Smith DATE: 3/10/13
 SUPERVISOR: John Smith DATE: 3/10/13
 CLIENT: ABC Corp ADDRESS: 123 Main St, Houston, TX 77001
 PHONE: 281-555-1234 FAX: 281-555-5678
 E-MAIL: john@abc.com

LABORATORY: Labella Associates, Inc.
 ADDRESS: 1234 Main St, Houston, TX 77001
 PHONE: 281-555-1234 FAX: 281-555-5678
 E-MAIL: labella@labella.com
 DATE: 3/10/13 TIME: 10:00
 ANALYST: John Smith DATE: 3/10/13
 SUPERVISOR: John Smith DATE: 3/10/13



Form # _____ 10/14/76

Sample Preservation Log

Date of collection: October 1, 1976

Geographical Area: BR

Sample Number: 1001
Date: 10/1/76
Page: 1 of 1

Sample #	Depth (m)	Time (hr:min)	Location (lat/lon)	Depth (m)	Time (hr:min)	Location (lat/lon)	Depth (m)	Time (hr:min)	Location (lat/lon)	Depth (m)	Time (hr:min)	Location (lat/lon)	Depth (m)	Time (hr:min)	Location (lat/lon)	Depth (m)	Time (hr:min)	Location (lat/lon)
1001	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1002	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1003	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1004	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1005	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1006	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1007	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1008	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1009	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W
1010	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W	0	08:00	18° 15' N, 155° 00' W

Date of collection: _____
 Geographical Area: _____
 Sample Number: _____
 Date: _____
 Page: _____

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
 Submitted To: **Jake White**

Date Issued: **10/10/2018 4:26:32PM**

Sample Conditions Checklist

Sample Received at	LAPC
Has any sample been?	YES/Quota
How Cooling from soil? If so, what has received heat?	No
Are the correct preservation methods completed and recorded?	No
Do all bottle labels agree with custody papers?	No
Is the temperature blank or representative sample within acceptable limits? (allows freezing to 5°C or less) or not on ice and recently later?	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GRO, EPA8021, EPA8204, and R50-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Trip Blank Data/Time (9-11-18 9:20) was taken from the sample container labels.
 RLC 9-26-18.

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Laboratory Sample ID: 181001-01

Client Sample ID: MA-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6110C	160		5.0	10.0	1	ug/L
Cobalt	01	SW6110C	10.4		2.0	4.0	1	ug/L
Manganese	01	SW6110C	4.9	J	2.0	10.0	1	ug/L
1,1-Dichloroethene	01	SW8260B	7.17		0.60	1.00	1	ug/L
1,2-Dichloroethane	01	SW8260B	0.52	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260B	3.84		0.40	1.00	1	ug/L
Benzene	01	SW8260B	1.60		0.40	1.00	1	ug/L
Chlorobenzene	01	SW8260B	2.44		0.40	1.00	1	ug/L
Chloroethane	01	SW8260B	2.04		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260B	8.97		0.40	1.00	1	ug/L
Trichloroethylene	01	SW8260B	0.94	J	0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260B	2.08		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Laboratory Sample ID: 181001-02

Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW8010C	295		5.0	10.0	1	ug/L
Cobalt	02	SW8010C	20.1		2.0	4.0	1	ug/L
Lead	02	SW8010C	94.2		2.0	10.0	1	ug/L
1,1-Dichloroethane	02	SW8260B	4.45		0.40	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260B	1.17		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260B	14.1		0.40	1.00	1	ug/L
Benzene	02	SW8260B	1.79		0.40	1.00	1	ug/L
Chlorobenzene	02	SW8260B	13.5		0.40	1.00	1	ug/L
Chloroethane	02	SW8260B	1.02		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260B	6.24		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260B	1.64		0.40	1.00	1	ug/L
Vinyl chloride	02	SW8260B	0.74		0.50	0.50	1	ug/L

Laboratory Sample ID: 181001-03

Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW8010C	247		5.0	10.0	1	ug/L
Cobalt	03	SW8010C	3.6	J	2.0	4.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Laboratory Sample ID: 181081-04

Client Sample ID: MW-4

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Benzene	04	SW6010C	43.7		5.0	10.0	1	ug/L
Chloroethane	04	SW6010C	5.9	J	2.0	4.0	1	ug/L
Heptane	04	SW6010C	4.8	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	04	SW8260B	3.15		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260B	0.08	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260B	18.2		0.40	1.00	1	ug/L
Benzene	04	SW8260B	3.22		0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260B	10.4		0.40	1.00	1	ug/L
Chloroethane	04	SW8260B	1.45		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	4.83		0.40	1.00	1	ug/L
m-p-Xylenes	04	SW8260B	1.38	J	0.60	2.00	1	ug/L
Naphthalene	04	SW8260B	1.51		0.80	1.00	1	ug/L
o-Xylene	04	SW8260B	3.04		0.40	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.54	J	0.40	1.00	1	ug/L
Vinyl chloride	04	SW8260B	0.95		0.50	0.50	1	ug/L
Xylenes, Total	04	SW8260B	4.42		1.00	3.00	1	ug/L

Laboratory Sample ID: 181081-05

Client Sample ID: MW-20

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DL Factor	Units
Benzene	05	SW6010C	11.2		5.0	10.0	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID: 181081

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: September 27, 2018 15:20
Date Issued: October 10, 2018 16:24
Project Number: 310.1701.03.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill

Enclosed are the results of analyses for samples received by the laboratory on 09/27/2018 15:20. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Coyne
Laboratory Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfate that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are data as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	1811081-01	Ground Water	09/26/2018 09:00	09/27/2018 15:20
MW-2B	1811081-02	Ground Water	09/26/2018 08:25	09/27/2018 15:20
MW-3A	1811081-03	Ground Water	09/26/2018 07:55	09/27/2018 15:20
MW-4	1811081-04	Ground Water	09/26/2018 10:20	09/27/2018 15:20
MW-20	1811081-05	Ground Water	09/27/2018 07:15	09/27/2018 15:20

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-18

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Unit	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BO
Arsenic	01	7440-38-2	8000/7000A	09/28/2018 17:00	10/02/2018 16:14	BL00		1.0	5.0	1	ug/L	NOV
Barium	01	7440-39-3	8000/7000	09/28/2018 17:00	10/04/2018 16:58	100		5.0	10.0	1	ug/L	BO
Beryllium	01	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	4.0	1	ug/L	BO
Cadmium	01	7440-43-4	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		2.0	4.0	1	ug/L	BO
Cobalt	01	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		3.0	4.0	1	ug/L	BO
Chromium	01	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		4.0	10.0	1	ug/L	BO
Copper	01	7440-50-8	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		3.0	10.0	1	ug/L	BO
Mercury	01	7440-01-6	8000/7000	10/05/2018 15:47	10/09/2018 14:02	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-02-0	8000/7000	09/28/2018 17:00	10/04/2018 16:58	4.3	J	2.0	10.0	1	ug/L	BO
Lead	01	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BO
Antimony	01	7440-29-0	8000/7000A	09/28/2018 17:00	10/03/2018 15:14	BL00		1.00	3.00	1	ug/L	NOV
Selenium	01	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		40.0	50.0	1	ug/L	BO
Tin	01	7440-31-0	8000/7000	09/28/2018 17:00	10/05/2018 13:43	BL00		50.0	20.0	1	ug/L	BO
Thallium	01	7440-28-0	8000/7000A	09/28/2018 17:00	10/03/2018 12:41	BL00		1.00	2.00	1	ug/L	BO
Zinc	01	7440-66-2	8000/7000	09/28/2018 17:00	10/04/2018 16:58	BL00		5.0	10.0	1	ug/L	BO
Zinc	01	7440-66-2	8000/7000	09/28/2018 17:00	10/04/2018 16:58	26.70		10.0	10.0	1	ug/L	BO

Volatile Organic Compounds by GCMS

1,1,1,2-Tetrachloroethane	01	630-20-8	8000/2000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	0.40	1	ug/L	NOB
1,1,1-Trichloroethane	01	71-03-6	8000/2000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.80	1.00	1	ug/L	NOB
1,1,2,2-Tetrachloroethane	01	78-34-5	8000/2000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.50	0.40	1	ug/L	NOB
1,1,2-Trichloroethane	01	78-00-5	8000/2000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.50	1.00	1	ug/L	NOB
1,1-Dichloroethane	01	75-34-3	8000/2000	09/28/2018 15:04	09/28/2018 15:04	7.17		0.80	1.00	1	ug/L	NOB
1,1-Dichloroethylene	01	75-35-4	8000/2000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.70	1.00	1	ug/L	NOB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Client Sample ID: MW-18

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,2,3-Trichloropropane	01	96-14-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	78-87-5	SW82000	09/28/2018 15:04	09/28/2018 15:04	0.82	J	0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW82000	09/28/2018 15:04	09/28/2018 15:04	1.84		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	79-56-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	01	99-10-0	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	109-10-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	1.60		0.40	1.00	1	ug/L	KCS
Bromoacetonitrile	01	74-97-9	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	54-22-5	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	106-95-7	SW82000	09/28/2018 15:04	09/28/2018 15:04	1.84		0.40	1.00	1	ug/L	KCS
Chloroethane	01	78-06-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	1.04		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.80	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	106-68-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	0.97		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-8	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BLOD		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **181901-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Dibromomethane	01	74-95-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	01	75-71-8	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.80	1.00	1	ug/L	KCB
Ethylbenzene	01	100-41-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	1.00	1	ug/L	KCB
Isobutane	01	74-99-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	01	78-99-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		29.0	40.0	1	ug/L	KCB
n-Propylene	01	119601-24	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	2.00	1	ug/L	KCB
Methylene chloride	01	75-09-2	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.20	4.00	1	ug/L	KCB
Naphthalene	01	91-20-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.80	1.00	1	ug/L	KCB
n-Heptane	01	63-47-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	1.00	1	ug/L	KCB
Styrene	01	100-42-5	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	01	127-18-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.40	1.00	1	ug/L	KCB
Toluene	01	108-88-3	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.50	1.00	1	ug/L	KCB
trans-1,2-Dichloroethylene	01	106-60-5	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.80	1.00	1	ug/L	KCB
trans-1,3-Dichloroethene	01	10661-07-8	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.50	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	01	110-67-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		1.80	4.00	1	ug/L	KCB
Trichloroethylene	01	79-07-8	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL	J	0.40	1.00	1	ug/L	KCB
Trichlorofluoromethane	01	75-69-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		0.80	1.00	1	ug/L	KCB
Vinyl acetate	01	108-05-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		2.00	10.0	1	ug/L	KCB
Vinyl chloride	01	75-01-4	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL		0.80	0.80	1	ug/L	KCB
Xylenes, Total	01	1330-20-1	SW82000	09/28/2018 15:04	09/28/2018 15:04	BL00		1.80	3.00	1	ug/L	KCB
Sum: 1,2-Dichloroethane-d4 (Sum)	01	101 %	75-120	09/28/2018 15:04	09/28/2018 15:04							
Sum: 4-Bromodifluoromethane (Sum)	01	108 %	75-120	09/28/2018 15:04	09/28/2018 15:04							
Sum: Dibromodifluoromethane (Sum)	01	100 %	75-130	09/28/2018 15:04	09/28/2018 15:04							
Sum: Fluorene-d10 (Sum)	01	95.8 %	75-130	09/28/2018 15:04	09/28/2018 15:04							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **181001-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	63-67-4	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	2.20	11.0	1		ug/L	SKS
Nitro (2-Ethylhexyl) phthalate	01	917-61-7	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	2.75	2.75	1		ug/L	SKS
Olefin (p,p') anthracene	01	55-75-3	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	2.20	11.0	1		ug/L	SKS
Diethyl phthalate	01	84-66-2	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	3.30	11.0	1		ug/L	SKS
Dioctyl phthalate	01	64-74-2	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	4.40	11.0	1		ug/L	SKS
Indene (1,2,3-cd) pyrene	01	189-09-8	SW82700	10/01/2018 09:15	10/02/2018 16:08	BL00	3.30	11.0	1		ug/L	SKS
Sum 2,4,6-Trinitrophenol (Sum)	01	87.0 %	79-05	10/01/2018 09:15	10/02/2018 16:08							S
Sum 2-Fluorobiphenyl (Sum)	01	88.8 %	8-87	10/01/2018 09:15	10/02/2018 16:08							S
Sum 2-Fluorobenzofuran (Sum)	01	15.7 %	10-52	10/01/2018 09:15	10/02/2018 16:08							
Sum Methyleneoxide (Sum)	01	65.4 %	14-65.5	10/01/2018 09:15	10/02/2018 16:08							
Sum Phthalate (Sum)	01	30.2 %	5-33	10/01/2018 09:15	10/02/2018 16:08							S
Sum p-Terphenyl-411 (Sum)	01	85.8 %	27-152	10/01/2018 09:15	10/02/2018 16:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-18

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Endosulfan sulfate	01	1430-19-4	8160.01B	10/02/2018 12:00	10/04/2018 15:28	BLD		0.008	0.007	1	ug/L	MSM
Sum PCBs	01	7912-11-9	27-131	10/02/2018 12:00	10/04/2018 15:29							
Sum DCB	01	7912-11-9	27-131	10/02/2018 12:00	10/04/2018 15:29							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-18

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	01	62-76-5	SW8261A	10/03/2018 08:22	10/06/2018 14:18	BL00		0.100	0.500	1	µg/L	SKJ
Sum DOAA (Sum)	01	62-76-5	SA-112	10/03/2018 08:22	10/06/2018 14:18							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-18

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by OCECO												
1,2-Dibromethane (EDB)	01	106-93-4	826011	10/03/2018 10:28	10/03/2018 21:28	BLGD		0.008	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	01	96-18-4	826011	10/03/2018 10:28	10/03/2018 21:28	BLGD		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	826011	10/03/2018 10:28	10/03/2018 21:28	BLGD		0.008	0.010	1	ug/L	MSM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-18

Laboratory Sample ID: 181001-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep DateTime	Analysed DateTime	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	01	10496-24-8	SW8218	10/01/2018 11:00	10/01/2018 15:00	BLDG		0.00	1.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181901-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BO
Arsenic	02	7440-39-2	8000/7000A	09/28/2018 17:00	10/02/2018 15:27	BL00		1.0	5.0	1	ug/L	NOV
Barium	02	7440-39-2	8000/7000	09/28/2018 17:00	10/04/2018 17:08	288		5.0	10.0	1	ug/L	BO
Beryllium	02	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		2.0	4.0	1	ug/L	BO
Cadmium	02	7440-49-4	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		0.5	4.0	1	ug/L	BO
Cobalt	02	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL01		3.0	4.0	1	ug/L	BO
Chromium	02	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		4.0	10.0	1	ug/L	BO
Copper	02	7440-50-9	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		3.0	10.0	1	ug/L	BO
Mercury	02	7440-01-6	8000/7000A	10/05/2018 15:47	10/09/2018 14:15	BL00		0.20	0.20	1	ug/L	MM
Nickel	02	7440-52-0	8000/7000	09/28/2018 17:00	10/04/2018 17:08	84.7		2.0	10.0	1	ug/L	BO
Lead	02	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BO
Antimony	02	7440-20-2	8000/7000A	09/28/2018 17:00	10/03/2018 15:27	BL00		1.00	3.00	1	ug/L	NOV
Selenium	02	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		40.0	50.0	1	ug/L	BO
Tin	02	7440-31-6	8000/7000	09/28/2018 17:00	10/04/2018 15:50	BL00		20.0	20.0	1	ug/L	BO
Thallium	02	7440-28-0	8000/7000A	09/28/2018 17:00	10/03/2018 15:27	BL00		1.00	3.00	1	ug/L	BO
Zinc	02	7440-66-2	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BO
Zinc	02	7440-66-2	8000/7000	09/28/2018 17:00	10/04/2018 17:08	BL00		10.0	10.0	1	ug/L	BO

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Client Sample ID: MW-28

Laboratory Sample ID: 181901-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	79-34-9	SW82600	09/28/2018 15:30	09/28/2018 15:30	4.40		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	80-19-4	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	85-50-1	SW82600	09/28/2018 15:30	09/28/2018 15:30	1.17		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	107-06-3	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	79-07-5	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW82600	09/28/2018 15:30	09/28/2018 15:30	14.1		0.40	1.00	1	ug/L	KCS
Chloroacene (MIX)	02	78-07-3	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		3.00	5.00	1	ug/L	KCS
Dibromoacene (MIX)	02	98-17-8	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-octanone (MIBK)	02	126-10-1	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW82600	09/28/2018 15:30	09/28/2018 15:30	1.79		0.40	1.00	1	ug/L	KCS
Bromochloroethane	02	74-97-8	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.30	1.00	1	ug/L	KCS
Bromodichloroethane	02	75-37-4	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.40	0.50	1	ug/L	KCS
Bromoforn	02	75-35-2	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-6	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-8	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		1.80	5.00	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW82600	09/28/2018 15:30	09/28/2018 15:30	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW82600	09/28/2018 15:30	09/28/2018 15:30	13.3		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-29

Laboratory Sample ID: 181901-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-00-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	1.00		0.70	1.00	1	ug/L	RC6
Chloroform	02	67-66-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	0.80	1	ug/L	RC6
Chloromethane	02	74-87-5	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	1.00	1	ug/L	RC6
cis-1,3-Dichloroethylene	02	156-60-2	SW8260B	09/28/2018 15:30	09/28/2018 15:30	8.24		0.40	1.00	1	ug/L	RC6
cis-1,3-Dichloropropene	02	1002-1-2-4	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.30	1.00	1	ug/L	RC6
Dibromochloromethane	02	106-96-1	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.50	0.50	1	ug/L	RC6
Dibromomethane	02	74-90-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.40	1.00	1	ug/L	RC6
Dichlorodifluoromethane	02	75-71-8	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	1.00	1	ug/L	RC6
Ethylchloride	02	103-47-4	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.40	1.00	1	ug/L	RC6
Isobutylene	02	74-99-4	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		1.70	10.0	1	ug/L	RC6
Isobutyl Alcohol	02	76-83-1	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		25.0	40.0	1	ug/L	RC6
n-pyrene	02	175021-28-1	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	2.00	1	ug/L	RC6
Methylene chloride	02	75-09-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	0.80	1	ug/L	RC6
Naphthalene	02	91-20-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	1.00	1	ug/L	RC6
n-Xylene	02	95-47-8	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.40	1.00	1	ug/L	RC6
Styrene	02	100-42-0	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.40	1.00	1	ug/L	RC6
Tetrachloroethylene (PCE)	02	127-18-4	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.40	1.00	1	ug/L	RC6
Toluene	02	108-88-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.50	1.00	1	ug/L	RC6
trans-1,3-Dichloroethylene	02	156-60-3	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	1.00	1	ug/L	RC6
trans-1,3-Dichloropropene	02	10021-02-6	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.30	1.00	1	ug/L	RC6
trans-1,4-Dichloro-2-butene	02	110-57-8	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		1.00	4.00	1	ug/L	RC6
Trichloroethylene	02	79-01-6	SW8260B	09/28/2018 15:30	09/28/2018 15:30	1.84		0.40	1.00	1	ug/L	RC6
Trichlorofluoromethane	02	75-69-4	SW8260B	09/28/2018 15:30	09/28/2018 15:30	BL00		0.80	1.00	1	ug/L	RC6

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181981-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	02	106-99-4	8260.008	09/28/2018 15:30	09/28/2018 15:30	BLDD		2.00	10.0	1	ug/L	KCB
Vinyl chloride	02	75-07-4	8260.008	09/28/2018 15:30	09/28/2018 15:30	0.76		0.50	0.50	1	ug/L	KCB
Nitrogen, Total	02	1470-26-7	8260.008	09/28/2018 15:30	09/28/2018 15:30	BLDD		1.00	0.00	1	ug/L	KCB
Sum: 1,2-Dichloroethane-d4 (Sum)	02	87-9 %	70-130	09/28/2018 15:30	09/28/2018 15:30							
Sum: 4-Bromofluorobenzene (Sum)	02	100 %	70-130	09/28/2018 15:30	09/28/2018 15:30							
Sum: Dibromofluoromethane (Sum)	02	100 %	70-130	09/28/2018 15:30	09/28/2018 15:30							
Sum: Toluene-d8 (Sum)	02	102 %	70-130	09/28/2018 15:30	09/28/2018 15:30							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181981-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenethiols Organic Compounds by GCMS												
4-Aminobiphenyl	02	62-67-4	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		2.05	10.4	1	ug/L	SKS
Nitro (2-Ethylhexyl) phthalate	02	617-91-7	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		2.60	2.60	1	ug/L	SKS
Olefinic (p,p') anthracene	02	55-70-3	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		2.88	10.4	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		3.12	10.4	1	ug/L	SKS
Dioctyl phthalate	02	64-74-2	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		4.17	10.4	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	02	189-09-9	SM82700	10/01/2018 09:15	10/02/2018 17:44	BLOD		3.12	10.4	1	ug/L	SKS
Sum 2,4,6-Trinitrophenyl (Sum)	02	94.7 %	71-05	10/01/2018 09:15	10/02/2018 17:44							S
Sum 2-Fluorobiphenyl (Sum)	02	32.2 %	8-87	10/01/2018 09:15	10/02/2018 17:44							
Sum 2-Fluorobenzal (Sum)	02	30.5 %	10-82	10/01/2018 09:15	10/02/2018 17:44							
Sum Methylacetone (Sum)	02	51.9 %	10-88.1	10/01/2018 09:15	10/02/2018 17:44							
Sum Phenol (Sum)	02	21.4 %	3-33	10/01/2018 09:15	10/02/2018 17:44							
Sum 2-Naphthyl-eth (Sum)	02	60.0 %	27-152	10/01/2018 09:15	10/02/2018 17:44							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-26

Laboratory Sample ID: 181001-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Endosulfan sulfate	02	1430-10-4	8180B18	10/02/2018 12:00	10/04/2018 16:22	BLD		0.006	0.007	1	ug/L	MSM
Sum PCBs	02	700 %	18-112	10/02/2018 12:00	10/04/2018 16:22							
Sum DCB	02	90.0 %	27-131	10/02/2018 12:00	10/04/2018 16:22							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181001-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	61-76-5	SW8151A	10/03/2018 08:23	10/08/2018 15:11	BL00		0.100	0.500	1	ug/L	SKB
Sum DCAA (Sum)	02	61-76-5	SA-112	10/03/2018 08:23	10/08/2018 15:11							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181981-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobiphenyls by GC/MS												
1,2-Dibromobiphenyl (DBB)	02	106-93-4	826011	10/03/2018 10:28	10/03/2018 22:22	BLDD		0.008	0.010	1	ug/L	MSM
1,2,3-Trichlorobiphenyl	02	96-18-4	826011	10/03/2018 10:28	10/03/2018 22:22	BLDD		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chlorobiphenyl (DBCP)	02	96-12-8	826011	10/03/2018 10:28	10/03/2018 22:22	BLDD		0.008	0.010	1	ug/L	MSM

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-28

Laboratory Sample ID: 181981-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	02	50426-24-8	SW8278	10/01/2018 11:00	10/01/2018 15:00	BL00		0.00	1.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BC
Antimony	01	7440-36-2	8000-20A	09/28/2018 17:00	10/02/2018 18:32	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-3	8000-10C	09/28/2018 17:00	10/04/2018 17:08	247		5.0	10.0	1	ug/L	BC
Beryllium	01	7440-41-7	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		2.0	4.0	1	ug/L	BC
Cadmium	01	7440-49-4	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		2.0	4.0	1	ug/L	BC
Cobalt	01	7440-48-4	8000-10C	09/28/2018 17:00	10/04/2018 17:08	3.8	J	2.0	4.0	1	ug/L	BC
Chromium	01	7440-47-3	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		4.0	10.0	1	ug/L	BC
Copper	01	7440-50-8	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		2.0	10.0	1	ug/L	BC
Mercury	01	7439-97-4	8000-10A	10/05/2018 15:47	10/09/2018 14:17	BL00		0.20	0.20	1	ug/L	MM
Nickel	01	7440-33-0	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		2.0	10.0	1	ug/L	BC
Lead	01	7439-92-1	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BC
Arsenic	01	7439-98-2	8000-20A	09/28/2018 17:00	10/02/2018 18:32	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		50.0	50.0	1	ug/L	BC
Tin	01	7440-31-6	8000-10C	09/28/2018 17:00	10/05/2018 13:57	BL50		20.0	20.0	1	ug/L	BC
Thallium	01	7440-28-4	8000-20A	09/28/2018 17:00	10/02/2018 18:32	BL00		1.00	1.00	1	ug/L	BC
Vanadium	01	7440-62-2	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		5.0	10.0	1	ug/L	BC
Zinc	01	7440-66-6	8000-10C	09/28/2018 17:00	10/04/2018 17:08	BL00		10.0	10.0	1	ug/L	BC

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
 Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **181981-01**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-69-6	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	78-34-3	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	78-36-4	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	95-18-4	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	03	107-06-2	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	78-87-5	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW826008	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	02	75-70-5	SW826009	09/28/2018 15:58	09/28/2018 15:58	BL00		0.00	0.00	1	ug/L	KCS
2-Pentanone (MEX)	02	521-78-8	SW826009	09/28/2018 15:58	09/28/2018 15:58	BL00		2.20	0.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	03	109-10-1	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		1.50	0.00	1	ug/L	KCS
Axetone	03	87-66-1	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW826009	09/28/2018 15:58	09/28/2018 15:58	BL00		1.70	0.00	1	ug/L	KCS
Benzene	03	71-43-2	SW826009	09/28/2018 15:58	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.00	1.00	1	ug/L	KCS
Bromodichloromethane	03	79-27-4	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	03	79-25-2	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	03	75-18-5	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW826009	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.70	1.00	1	ug/L	KCB
Chloroform	02	67-66-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.50	0.80	1	ug/L	KCB
Chloromethane	03	74-87-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.85	1.00	1	ug/L	KCB
cis-1,3-Dichloroethylene	05	156-88-2	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	07	10061-01-8	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	01	134-48-1	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.85	0.80	1	ug/L	KCB
Dibromomethane	02	74-95-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	03	75-71-8	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.55	1.00	1	ug/L	KCB
Ethylbenzene	03	100-41-4	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Isobutane	03	74-88-4	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	03	74-85-1	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		20.0	40.0	1	ug/L	KCB
n-B-Pentane	02	110521-25-1	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.85	2.00	1	ug/L	KCB
Methylene Chloride	03	75-09-2	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		1.00	4.00	1	ug/L	KCB
Neopentane	03	61-30-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.80	1.00	1	ug/L	KCB
o-Xylene	01	95-47-6	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Styrene	02	100-42-6	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	03	127-18-4	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Toluene	03	108-88-3	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.50	1.00	1	ug/L	KCB
trans-1,3-Dichloroethylene	03	156-80-9	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.85	1.00	1	ug/L	KCB
trans-1,3-Dichloropropene	05	10061-02-8	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.30	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	02	110-57-8	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		1.80	4.00	1	ug/L	KCB
Trichloroethylene	03	79-01-6	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.40	1.00	1	ug/L	KCB
Trichlorofluoromethane	03	75-68-4	SW8260B	09/28/2018 15:57	09/28/2018 15:58	BL00		0.85	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2016 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 161981-63

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	01	106-25-4	8260.000	09/28/2016 15:55	09/28/2016 15:55	BLDD		2.00	10.0	1	ug/L	WCB
Vinyl chloride	02	75-07-4	8260.000	09/28/2016 15:55	09/28/2016 15:55	BLDD		2.50	8.50	1	ug/L	WCB
Nylenes, Total	03	1330-20-7	8260.000	09/28/2016 15:55	09/28/2016 15:55	BLDD		1.00	3.00	1	ug/L	WCB
Sum: 1,2-Dichloroethane-d4 (Sum)	01	98.1 %	70-120	09/28/2016 15:55	09/28/2016 15:55							
Sum: 4-Bromodifluoromethane (Sum)	02	100 %	75-130	09/28/2016 15:55	09/28/2016 15:55							
Sum: Dibromodifluoromethane (Sum)	03	100 %	70-130	09/28/2016 15:55	09/28/2016 15:55							
Sum: Toluene-d8 (Sum)	03	101 %	70-130	09/28/2016 15:55	09/28/2016 15:55							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181981-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	63-67-4	SW82700	10/01/2018 06:18	10/02/2018 18:18	BL00		2.27	11.4	1	ug/L	SKB
Nitro (2-Ethylhexyl) phthalate	02	617-61-7	SW82700	10/01/2018 06:18	10/02/2018 18:18	BL00		2.64	2.64	1	ug/L	SKB
Olefin (p,n) anthracene	03	55-70-3	SW82700	10/01/2018 06:18	10/02/2018 18:18	BL00		2.27	11.4	1	ug/L	SKB
Diethyl phthalate	05	84-66-3	SW82700	10/01/2018 06:18	10/02/2018 18:18	BL00		3.41	11.4	1	ug/L	SKB
Dibutyl phthalate	07	64-74-2	SW82700	10/01/2018 06:18	10/02/2018 18:18	BL00		4.58	11.4	1	ug/L	SKB
Indene (1,2,3-cd) pyrene	09	189-84-8	SW82700	10/01/2018 06:17	10/02/2018 18:17	BL00		3.41	11.4	1	ug/L	SKB
Sum 2,4,6-Trinitrophenol (Sum)	01	73.0 %	71-05	10/01/2018 06:18	10/02/2018 18:18							
Sum 2-Fluorobiphenyl (Sum)	02	88.8 %	8-87	10/01/2018 06:18	10/02/2018 18:18							
Sum 2-Fluorobenzal (Sum)	03	60.8 %	10-82	10/01/2018 06:18	10/02/2018 18:18							
Sum Nitrobenzene (Sum)	04	64.7 %	71-05	10/01/2018 06:18	10/02/2018 18:18							
Sum Phenol (Sum)	05	26.2 %	8-33	10/01/2018 06:18	10/02/2018 18:18							
Sum 2-Nitrophenol (Sum)	06	77.7 %	87-132	10/01/2018 06:18	10/02/2018 18:18							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181981-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Endosulfan sulfate	01	10241-93-9	81890B18	10/02/2018 12:00	10/04/2018 16:40	BLDD		0.006	0.0164	1	ug/L	MSM
Sum PCBs	01	48.0 %	18-112	10/02/2018 12:00	10/04/2018 16:40							
Sum DCB	01	30.0 %	27-137	10/02/2018 12:00	10/04/2018 16:40							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181001-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<i>Organochlorine Herbicides by GC/ECD</i>												
2,4,5-T	01	62-76-5	SW8101A	10/03/2018 08:23	10/06/2018 15:29	BLDD		0.100	0.500	1	µg/L	SKJ
Sum DCAA (Sum)	01	62-76-5	SA-112	10/03/2018 08:23	10/06/2018 15:29							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181901-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by OCECO												
1,2-Dibromoethane (DEB)	01	106-93-4	826011	10/03/2018 10:26	10/03/2018 22:42	BLGD		0.008	0.010	1	ug/L	MLM
1,2,3-Trichloropropane	02	96-18-4	826011	10/03/2018 10:26	10/03/2018 22:42	BLGD		0.008	0.010	1	ug/L	MLM
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	826011	10/03/2018 10:26	10/03/2018 22:42	BLGD		0.008	0.010	1	ug/L	MLM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-3A

Laboratory Sample ID: 181001-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	01	10461-24-8	SW8218	10/01/2018 11:00	10/01/2018 15:00	BL00		0.00	0.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Client Sample ID: MW-4

Laboratory Sample ID: 181981-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	04	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		5.0	10.0	1	ug/L	BO
Arsenic	04	7440-39-2	8000/7000A	09/28/2018 17:00	10/03/2018 15:49	BL00		1.0	5.0	1	ug/L	BOV
Barium	04	7440-39-3	8000/7000	09/28/2018 17:00	10/04/2018 17:11	49.7		5.0	10.0	1	ug/L	BO
Beryllium	04	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		2.0	4.0	1	ug/L	BO
Cadmium	04	7440-43-4	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		2.0	4.0	1	ug/L	BO
Cobalt	04	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 17:11	5.5	J	2.0	4.0	1	ug/L	BO
Chromium	04	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		4.0	10.0	1	ug/L	BO
Copper	04	7440-50-9	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		2.0	10.0	1	ug/L	BO
Mercury	04	7440-01-6	8000/7000	10/05/2018 15:47	10/05/2018 14:18	BL00		0.20	0.20	1	ug/L	MM
Nickel	04	7440-02-0	8000/7000	09/28/2018 17:00	10/04/2018 17:11	4.8	J	2.0	10.0	1	ug/L	BO
Lead	04	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		5.0	10.0	1	ug/L	BO
Antimony	04	7440-36-2	8000/7000A	09/28/2018 17:00	10/03/2018 15:49	BL00		1.00	5.00	1	ug/L	BOV
Selenium	04	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		40.0	50.0	1	ug/L	BO
Tin	04	7440-31-6	8000/7000	09/28/2018 17:00	10/05/2018 15:50	BL00		20.0	20.0	1	ug/L	BO
Thallium	04	7440-28-0	8000/7000A	09/28/2018 17:00	10/03/2018 15:49	BL00		1.00	5.00	1	ug/L	BO
Vanadium	04	7440-62-2	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		5.0	10.0	1	ug/L	BO
Zinc	04	7440-66-6	8000/7000	09/28/2018 17:00	10/04/2018 17:11	BL00		10.0	10.0	1	ug/L	BO

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181901-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	630-20-8	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethene	04	71-68-8	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.60	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	04	79-00-5	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	04	79-34-3	SW82600	09/28/2018 16:21	09/28/2018 16:21	1.11		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	04	75-35-4	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.70	1.00	1	ug/L	KCB
1,2-Dichloropropane	04	80-19-4	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	04	85-50-1	SW82600	09/28/2018 16:21	09/28/2018 16:21	1.09	J	0.40	1.00	1	ug/L	KCB
1,3-Dichlorobenzene	04	107-06-3	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.70	1.00	1	ug/L	KCB
1,3-Dichloropropene	04	79-07-5	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	04	106-46-7	SW82600	09/28/2018 16:21	09/28/2018 16:21	18.7		0.40	1.00	1	ug/L	KCB
2-Pentanone (MIBK)	04	78-92-3	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		3.00	3.00	1	ug/L	KCB
2-Hexanone (MIBK)	04	94-79-6	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		2.20	3.00	1	ug/L	KCB
4-Methyl-2-pentanone (MIBK)	04	106-10-1	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		1.50	3.00	1	ug/L	KCB
Acetone	04	67-64-1	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		7.80	10.0	1	ug/L	KCB
Acrylonitrile	04	107-13-1	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		1.70	3.00	1	ug/L	KCB
Benzene	04	71-42-2	SW82600	09/28/2018 16:21	09/28/2018 16:21	1.01		0.40	1.00	1	ug/L	KCB
Bromochloromethane	04	74-87-6	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	1.00	1	ug/L	KCB
Bromodichloromethane	04	75-27-4	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	0.50	1	ug/L	KCB
Bromoflourine	04	75-25-2	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	04	74-83-6	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.80	1.00	1	ug/L	KCB
Carbon disulfide	04	75-15-0	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		1.80	10.0	1	ug/L	KCB
Carbon tetrachloride	04	56-23-5	SW82600	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	1.00	1	ug/L	KCB
Chlorobenzene	04	108-90-7	SW82600	09/28/2018 16:21	09/28/2018 16:21	10.4		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181001-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	1.40		0.70	1.00	1	ug/L	KCB
Chloroform	04	67-66-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	04	74-87-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.05	1.00	1	ug/L	KCB
cis-1,3-Dichloroethylene	04	156-88-2	SW8260B	09/28/2018 16:21	09/28/2018 16:21	4.81		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	04	10021-91-4	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	04	10646-1	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.50	0.50	1	ug/L	KCB
Dibromomethane	04	74-90-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	04	75-71-8	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.05	1.00	1	ug/L	KCB
Ethylbenzene	04	100-41-4	SW8260B	09/28/2018 16:21	09/28/2018 16:21	19.00		0.40	1.00	1	ug/L	KCB
Isobutane	04	74-99-4	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	04	76-83-1	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		25.0	40.0	1	ug/L	KCB
m,p-Xylenes	04	170521-28-1	SW8260B	09/28/2018 16:21	09/28/2018 16:21	1.38	J	0.80	2.00	1	ug/L	KCB
Methylene chloride	04	75-09-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.50	0.50	1	ug/L	KCB
Nonhalobutane	04	91-26-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	1.51		0.80	1.00	1	ug/L	KCB
o-Xylene	04	95-47-6	SW8260B	09/28/2018 16:21	09/28/2018 16:21	3.04		0.40	1.00	1	ug/L	KCB
Styrene	04	100-42-0	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
Tetrachloroethylene (PCE)	04	127-18-4	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
Toluene	04	108-88-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.50	1.00	1	ug/L	KCB
trans-1,2-Dichloroethylene	04	106-66-3	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB
trans-1,3-Dichloropropene	04	10021-02-8	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.30	1.00	1	ug/L	KCB
trans-1,4-Dichloro-2-butene	04	110-67-8	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		1.00	4.00	1	ug/L	KCB
Trichloroethylene	04	79-07-8	SW8260B	09/28/2018 16:21	09/28/2018 16:21	0.54	J	0.40	1.00	1	ug/L	KCB
Trichlorofluoromethane	04	79-08-4	SW8260B	09/28/2018 16:21	09/28/2018 16:21	BL00		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
 Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **181981-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	04	106-09-4	8260.000	09/28/2018 16:21	09/28/2018 16:21	BL00		2.00	10.0	1	ug/L	WCB
Vinyl chloride	04	75-01-4	8260.000	09/28/2018 16:21	09/28/2018 16:21	0.00		0.50	0.50	1	ug/L	WCB
Ethene, Total	04	1330-20-7	8260.000	09/28/2018 16:21	09/28/2018 16:21	4.42		1.00	3.00	1	ug/L	WCB
Surr: 1,2-Dichloroethane-d8 (Surr)	04	88-9 %	70-130	09/28/2018 16:21	09/28/2018 16:21							
Surr: 4-Bromofluorobenzene (Surr)	04	120 %	70-130	09/28/2018 16:21	09/28/2018 16:21							
Surr: Dibromofluoromethane (Surr)	04	100 %	70-130	09/28/2018 16:21	09/28/2018 16:21							
Surr: Toluene-d8 (Surr)	04	101 %	70-130	09/28/2018 16:21	09/28/2018 16:21							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181981-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
4-Aminobiphenyl	04	62-67-1	SM52700	10/01/2018 06:18	10/02/2018 18:48	BL00		2.27	11.4	1	ug/L	SKB
Nitro (2-Ethylhexyl) phthalate	04	617-91-7	SM52700	10/01/2018 06:18	10/02/2018 18:48	BL00		2.64	2.64	1	ug/L	SKB
Oleic acid (n-7) anthracene	04	55-70-3	SM52700	10/01/2018 06:18	10/02/2018 18:48	BL00		2.27	11.4	1	ug/L	SKB
Dialkyl phthalate	04	84-96-3	SM52700	10/01/2018 06:18	10/02/2018 18:48	BL00		3.41	11.4	1	ug/L	SKB
Dioctyl phthalate	04	64-74-2	SM52700	10/01/2018 06:18	10/02/2018 18:48	BL00		4.58	11.4	1	ug/L	SKB
Indene (1,2,3-cd) pyrene	04	189-84-8	SM52700	10/01/2018 06:17	10/02/2018 18:48	BL00		3.41	11.4	1	ug/L	SKB
Sum: 2,4,6-Trinitrotoluene (Sum)	04	75-4 %	19-05	10/01/2018 09:18	10/02/2018 18:48							
Sum: 2-Fluorobiphenyl (Sum)	04	87.8 %	3-87	10/01/2018 09:18	10/02/2018 18:48							
Sum: 2-Fluorobenzal (Sum)	04	38.8 %	19-87	10/01/2018 09:18	10/02/2018 18:48							
Sum: Methylacetone (Sum)	04	54.8 %	19-88.8	10/01/2018 09:18	10/02/2018 18:48							
Sum: Phenol (Sum)	04	26.5 %	3-33	10/01/2018 09:18	10/02/2018 18:48							
Sum: 2-Naphthyl-eth (Sum)	04	88.8 %	27-132	10/01/2018 09:18	10/02/2018 18:48							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181981-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	04	10241-92-6	8190.01B	10/02/2018 12:00	10/04/2018 16:57	BLD		0.006	0.016	1	ug/L	MSM
Sum PCBs	04	40-0-0	27-1.31	10/02/2018 12:00	10/04/2018 16:57							
Sum DDE	04	40-0-0	27-1.31	10/02/2018 12:00	10/04/2018 16:57							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181001-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	95-76-5	8160101A	10/09/2018 08:22	10/09/2018 15:47	BLDD		0.100	0.500	1	µg/L	SKJ
Sum (OCAR) (Sum)	04	95-76-5	816-112	10/09/2018 08:22	10/09/2018 15:47							

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181001-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by OCECO												
1,2-Dibromoethane (DEB)	04	106-93-4	826011	10/03/2018 10:26	10/03/2018 23:01	BLD		0.008	0.010	1	ug/L	MLM
1,2,3-Trichloropropane	04	96-18-4	826011	10/03/2018 10:26	10/03/2018 23:01	BLD		0.008	0.010	1	ug/L	MLM
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	826011	10/03/2018 10:26	10/03/2018 23:01	BLD		0.008	0.010	1	ug/L	MLM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-4

Laboratory Sample ID: 181001-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	04	5042-28-0	SW8218	10/01/2018 11:00	10/01/2018 15:00	BL00		0.00	1.00	1	mg/L	LAD

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Client Sample ID: MW-26

Laboratory Sample ID: 181981-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	05	7440-22-4	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		5.0	10.0	1	ug/L	BC
Arsenic	05	7440-39-2	8000/7000A	09/28/2018 17:00	10/02/2018 15:00	BL00		1.0	5.0	1	ug/L	BCV
Barium	05	7440-39-3	8000/7000	09/28/2018 17:00	10/04/2018 17:14	11.2		5.0	10.0	1	ug/L	BC
Beryllium	05	7440-41-7	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		2.0	4.0	1	ug/L	BC
Cadmium	05	7440-49-4	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		2.0	4.0	1	ug/L	BC
Cobalt	05	7440-48-4	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		3.0	4.0	1	ug/L	BC
Chromium	05	7440-47-3	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		4.0	10.0	1	ug/L	BC
Copper	05	7440-50-8	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		3.0	10.0	1	ug/L	BC
Mercury	05	7439-97-8	8000/7000	10/02/2018 17:47	10/06/2018 14:50	BL00		0.20	0.20	1	ug/L	BCV
Nickel	05	7440-02-0	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		2.0	10.0	1	ug/L	BC
Lead	05	7439-92-1	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		4.0	10.0	1	ug/L	BC
Antimony	05	7440-35-0	8000/7000A	09/28/2018 17:00	10/02/2018 15:00	BL00		1.00	5.00	1	ug/L	BCV
Selenium	05	7782-49-2	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		40.0	50.0	1	ug/L	BC
Tin	05	7440-51-6	8000/7000	09/28/2018 17:00	10/05/2018 14:01	BL00		20.0	20.0	1	ug/L	BC
Thallium	05	7440-28-4	8000/7000A	09/28/2018 17:00	10/02/2018 15:00	BL00		1.00	3.00	1	ug/L	BC
Vanadium	05	7440-62-0	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		8.0	10.0	1	ug/L	BC
Zinc	05	7440-66-0	8000/7000	09/28/2018 17:00	10/04/2018 17:14	BL00		10.0	10.0	1	ug/L	BC

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Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:38PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **181001-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-9	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-68-8	SW82000	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	78-24-2	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	78-29-4	SW82000	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	95-18-4	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	107-06-2	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	78-87-5	SW82000	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	05	75-70-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	531-78-8	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	109-10-1	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	05	67-66-1	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-87-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	05	79-25-2	SW82000	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.30	1.00	1	ug/L	KCS
Chloroform	05	108-90-7	SW82005	09/28/2018 16:40	09/28/2018 16:46	BLOD		0.40	1.00	1	ug/L	KCS

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Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **181001-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-05-3	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	05	156-89-2	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10001-01-6	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	136-48-1	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		0.80	0.80	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Hexamethane	05	74-88-4	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	74-85-1	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		75.0	40.0	1	ug/L	KCS
n-B-Pentane	05	110501-25-1	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.80	2.00	1	ug/L	KCS
Methylene Chloride	05	75-09-2	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		1.00	4.00	1	ug/L	KCS
Nonhalobenzene	05	81-20-3	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.85	1.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Styrene	05	100-42-6	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	05	156-80-9	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10001-02-8	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		1.80	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW82605	09/28/2018 16:40	09/28/2018 16:40	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	74-89-4	SW82600	09/28/2018 16:40	09/28/2018 16:40	BL00		0.80	1.00	1	ug/L	KCS

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Date Issued: 10/10/2018 4:24:58PM

Client Sample ID: MW-26

Laboratory Sample ID: 181001-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	05	106-09-4	SW8200B	09/28/2018 16:45	09/28/2018 16:45	BLDD		2.00	10.0	1	ug/L	WCB
Vinyl chloride	05	75-01-4	SW8200B	09/28/2018 16:45	09/28/2018 16:45	BLDD		0.50	0.50	1	ug/L	WCB
Nylenes, Total	05	1330-20-7	SW8200B	09/28/2018 16:45	09/28/2018 16:45	BLDD		1.00	3.00	1	ug/L	WCB
Sum: 1,2-Dichloroethane-d8 (Sum)	05	69.3 %	70-130	09/28/2018 16:45	09/28/2018 16:45							
Sum: 4-Bromodifluoromethane (Sum)	05	100 %	75-130	09/28/2018 16:45	09/28/2018 16:45							
Sum: Dibromodifluoromethane (Sum)	05	100 %	70-130	09/28/2018 16:45	09/28/2018 16:45							
Sum: Toluene-d8 (Sum)	05	101 %	70-130	09/28/2018 16:45	09/28/2018 16:45							

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Laboratory Sample ID: 181001-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenethiols Organic Compounds by GCMS												
4-Aminobiphenyl	05	62-67-4	SM82700	10/01/2018 06:18	10/02/2018 18:18	BL00		2.53	12.7	1	ug/L	SKB
Nitro (2-Ethylhexyl) phthalate	05	917-91-7	SM82700	10/01/2018 06:18	10/02/2018 18:18	BL00		3.98	3.98	1	ug/L	SKB
Olefinic (p,p') anthracene	05	55-70-3	SM82700	10/01/2018 06:18	10/02/2018 18:18	BL00		2.53	12.7	1	ug/L	SKB
Diethyl phthalate	05	84-66-3	SM82700	10/01/2018 06:18	10/02/2018 18:18	BL00		3.98	12.7	1	ug/L	SKB
Dioctyl phthalate	05	64-74-2	SM82700	10/01/2018 06:18	10/02/2018 18:18	BL00		9.96	12.7	1	ug/L	SKB
Indene (1,2,3-oxo) system	05	183-26-8	SM82700	10/01/2018 06:17	10/02/2018 18:18	BL00		3.98	12.7	1	ug/L	SKB
Sum: 1,4,6-Trinitrophenol (Sum)	05	79.7 %	70-05	10/01/2018 06:18	10/02/2018 18:18							
Sum: 2-Fluorobiphenyl (Sum)	05	98.2 %	9-87	10/01/2018 09:18	10/02/2018 18:18							
Sum: 2-Fluorobiphenyl (Sum)	05	77.8 %	70-87	10/01/2018 09:18	10/02/2018 18:18							
Sum: Methyleneoxide (Sum)	05	68.5 %	70-88.5	10/01/2018 09:18	10/02/2018 18:18							
Sum: Phenol (Sum)	05	26.1 %	9-33	10/01/2018 09:18	10/02/2018 18:18							
Sum: 2-Naphthyl-eth (Sum)	05	88.8 %	27-142	10/01/2018 09:18	10/02/2018 18:18							

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Client Sample ID: MW-26

Laboratory Sample ID: 181041-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Endosulfan sulfate	05	10241-93-9	81800118	10/02/2018 12:00	10/04/2018 17:18	BLDD		0.006	0.0164	1	ug/L	MSM
Sum PCBs	05	7912-11-5	818113	10/02/2018 12:00	10/04/2018 17:18							
Sum PCB	05	2912-11-5	818131	10/02/2018 12:00	10/04/2018 17:18							2

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Laboratory Sample ID: 181001-05

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	61-76-5	SW8151A	10/02/2018 08:22	10/06/2018 16:08	BLD		0.100	0.500	1	ug/L	SKJ
Sum (OCAs) (Sum)	05		SA-112	10/02/2018 08:22	10/06/2018 16:08							

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monitored by OUSECO												
1,2-Dibromoethane (EDB)	05	106-93-4	826011	10/03/2018 10:20	10/03/2018 21:20	BLD		0.008	0.010	1	ug/L	MSM
1,2,3-Trichloropropane	05	96-18-4	826011	10/03/2018 10:20	10/03/2018 23:20	BLD		0.008	0.010	1	ug/L	MSM
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	826011	10/03/2018 10:20	10/03/2018 23:20	BLD		0.008	0.010	1	ug/L	MSM

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfate	05	5042-28-2	SW8278	10/04/2018 06:18	10/04/2018 13:00	BL00		0.00	0.00	1	mg/L	LAD



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Method (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Sample Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BBI0867 - EPA200.2/R2.8

Blank (BBI0867-BLK1)

Prepared: 09/25/2018 Analyzed: 10/04/2018

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

Blank (BBI0867-BLK2)

Prepared: 09/28/2018 Analyzed: 10/05/2018

Barium	BLOD	10.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Ti	BLOD	20.0	ug/L

LCS (BBI0867-007)

Prepared: 09/28/2018 Analyzed: 10/04/2018

Barium	514	10.0	ug/L	500	103	80-120
Beryllium	484	4.0	ug/L	500	96.9	80-120
Cadmium	514	4.0	ug/L	500	103	80-120

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Method (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
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Batch 090907 - EPA/USEC

LCS (880667-881)										
Prepared: 09/26/2018 Analyzed: 10/04/2018										
Chromium	528	10.0	ug/L	500		108	90-120			
Cobalt	813	4.0	ug/L	500		103	90-120			
Copper	490	10.0	ug/L	500		88.8	90-120			
Lead	622	10.0	ug/L	500		104	90-120			
Nickel	520.8	10.0	ug/L	500		104	90-120			
Selenium	511	50.0	ug/L	500		102	90-120			
Silver	111	10.0	ug/L	100		111	90-120			E
Vanadium	514	10.0	ug/L	500		103	90-120			
Zinc	512	10.0	ug/L	500		102	90-120			

LCS (880667-882)										
Prepared: 09/26/2018 Analyzed: 10/05/2018										
Barium	467	10.0	ug/L	500		87.4	90-120			
Cadmium	478	4.0	ug/L	500		94.8	90-120			
Chromium	478	10.0	ug/L	500		95.8	90-120			
Lead	484	10.0	ug/L	500		94.8	90-120			
Selenium	473	50.0	ug/L	500		94.8	90-120			
Silver	95.1	10.0	ug/L	100		95.1	90-120			
Ti	88.2	20.0	ug/L	100		88.2	90-120			

LCS Dup (880667-8801)										
Prepared: 09/26/2018 Analyzed: 10/04/2018										
Barium	528	10.0	ug/L	500		108	90-120	2.23	20	
Beryllium	506	4.0	ug/L	500		101	90-120	4.26	20	
Cadmium	534	4.0	ug/L	500		107	90-120	5.87	20	
Chromium	547	10.0	ug/L	500		109	90-120	4.17	20	
Cobalt	533	4.0	ug/L	500		107	90-120	5.75	20	
Copper	518	10.0	ug/L	500		104	90-120	5.02	20	



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Date Issued: 10/10/2018 4:24:58PM

Method (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch 1810087 - EPA/USEPA

LCS Dup (881087-8501)		Prepared: 09/28/2018 Analyzed: 10/04/2018								
Lead	541	10.0	ug/L	500		108	80-120	5.71	20	
Nickel	541.4	10.0	ug/L	500		108	80-120	5.89	20	
Selenium	531	50.0	ug/L	500		106	80-120	5.85	20	
Silver	111	10.0	ug/L	100		111	80-120	6.491	20	E
Vanadium	535	10.0	ug/L	500		107	80-120	4.05	20	
Zinc	529	10.0	ug/L	500		106	80-120	3.37	20	

LCS Dup (881087-8502)		Prepared: 09/28/2018 Analyzed: 10/05/2018								
Barium	488	10.0	ug/L	500		97.6	80-120	0.163	20	
Cadmium	485	4.0	ug/L	500		97.0	80-120	1.44	20	
Chromium	488	10.0	ug/L	500		97.2	80-120	1.62	20	
Lead	485	10.0	ug/L	500		97.2	80-120	0.452	20	
Selenium	472	50.0	ug/L	500		94.4	80-120	0.151	20	
Silver	94.4	10.0	ug/L	100		94.4	80-120	0.752	20	
Tin	88.3	20.0	ug/L	100		88.3	80-120	0.173	20	

Matrix Spike (881087-MS1)		Source: 181078-01		Prepared: 09/28/2018 Analyzed: 10/04/2018						
Barium	519	10.0	ug/L	500	BLOD	104	75-125			
Beryllium	489	4.0	ug/L	500	BLOD	99.7	75-125			
Cadmium	527	4.0	ug/L	500	BLOD	105	75-125			
Chromium	541	10.0	ug/L	500	BLOD	108	75-125			
Cobalt	525	4.0	ug/L	500	BLOD	105	75-125			
Copper	507	10.0	ug/L	500	BLOD	101	75-125			
Lead	506	10.0	ug/L	500	BLOD	107	75-125			
Nickel	523.8	10.0	ug/L	500	BLOD	107	75-125			
Selenium	520	50.0	ug/L	500	BLOD	104	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 1810087 - EPA/MS/MSA										
Matrix Spike (MS/MS/MSA)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Silver	113	10.0	ug/L	100	BLDG	113	75-125			E
Vanadium	527	10.0	ug/L	500	BLDG	528	75-125			
Zinc	118	10.0	ug/L	500	BLDG	114	75-125			
Matrix Spike (MS/MS/MSA)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/04/2018										
Boron	345	10.0	ug/L	500	60	67.8	75-125			
Beryllium	505	4.0	ug/L	500	BLDG	101	75-125			
Calcium	556	4.0	ug/L	500	BLDG	111	75-125			
Chromium	526	10.0	ug/L	500	BLDG	105	75-125			
Cobalt	511	4.0	ug/L	500	10.4	100	75-125			
Copper	499	10.0	ug/L	500	BLDG	99.8	75-125			
Lead	514	10.0	ug/L	500	BLDG	103	75-125			
Mercury	111.8	10.0	ug/L	500	0.9	101	75-125			
Selenium	519	50.0	ug/L	500	BLDG	103	75-125			
Silver	107	10.0	ug/L	100	BLDG	107	75-125			E
Vanadium	517	10.0	ug/L	500	BLDG	103	75-125			
Zinc	465	10.0	ug/L	500	BLDG	93.1	75-125			
Matrix Spike (MS/MS/MSA)										
Source: 1810087-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
Boron	496	10.0	ug/L	500	BLDG	99.2	75-125			
Calcium	491	4.0	ug/L	500	BLDG	98.2	75-125			
Chromium	491	10.0	ug/L	500	BLDG	98.2	75-125			
Lead	497	10.0	ug/L	500	BLDG	99.4	75-125			
Selenium	492	50.0	ug/L	500	BLDG	98.4	75-125			
Silver	98.3	10.0	ug/L	100	BLDG	98.3	75-125			
Ti	88.8	20.0	ug/L	100	BLDG	88.8	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Matrix (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BB0667 - EPA/MSD1										
Matrix Spike (BB0667-MS1)										
	Source: 181981-01			Prepared: 09/28/2018		Analyzed: 10/05/2018				
Barium	535	10.0	ug/L	500	180	95.0	75-125			
Cadmium	481	4.0	ug/L	500	BLOD	96.1	75-125			
Chromium	488	10.0	ug/L	500	BLOD	97.8	75-125			
Lead	476	10.0	ug/L	500	BLOD	95.9	75-125			
Selenium	479	50.0	ug/L	500	BLOD	95.9	75-125			
Silver	96.5	10.0	ug/L	100	BLOD	96.5	75-125			
Tin	76.3	20.0	ug/L	100	BLOD	76.3	75-125			
Matrix Spike Dup (BB0667-MSD1)										
	Source: 181076-01			Prepared: 09/28/2018		Analyzed: 10/04/2018				
Barium	508	10.0	ug/L	500	BLOD	102	75-125	2.13	20	
Beryllium	480	4.0	ug/L	500	BLOD	98.0	75-125	3.83	20	
Cadmium	514	4.0	ug/L	500	BLOD	103	75-125	2.44	20	
Chromium	529	10.0	ug/L	500	BLOD	106	75-125	2.30	20	
Cobalt	514	4.0	ug/L	500	BLOD	103	75-125	2.18	20	
Copper	491	10.0	ug/L	500	BLOD	98.3	75-125	3.21	20	
Lead	522	10.0	ug/L	500	BLOD	104	75-125	2.49	20	
Nickel	523.4	10.0	ug/L	500	BLOD	105	75-125	2.00	20	
Selenium	508	50.0	ug/L	500	BLOD	102	75-125	2.96	20	
Silver	107	10.0	ug/L	100	BLOD	107	75-125	8.84	20	
Vanadium	515	10.0	ug/L	500	BLOD	103	75-125	2.12	20	
Zinc	510	10.0	ug/L	500	BLOD	102	75-125	1.68	20	
Matrix Spike Dup (BB0667-MSD2)										
	Source: 181981-01			Prepared: 09/28/2018		Analyzed: 10/04/2018				
Barium	504	10.0	ug/L	500	180	94.7	75-125	0.491	20	
Beryllium	508	4.0	ug/L	500	BLOD	101	75-125	0.953	20	
Cadmium	514	4.0	ug/L	500	BLOD	103	75-125	1.25	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: BB0667 - EPA 80007000										
Matrix Spike Dup (BB0667-MSD2)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/04/2018			
Chromium	529	10.0	ug/L	500	BLOOD	108	75-125	0.501	20	
Cobalt	518	4.0	ug/L	500	BLOOD	101	75-125	1.13	20	
Copper	498	10.0	ug/L	500	BLOOD	98.8	75-125	0.114	20	
Lead	524	10.0	ug/L	500	BLOOD	104	75-125	1.39	20	
Nickel	517.9	10.0	ug/L	500	BLOOD	4.9	75-125	1.22	20	
Selenium	514	50.0	ug/L	500	BLOOD	103	75-125	0.386	20	
Silver	105	10.0	ug/L	100	BLOOD	105	75-125	1.36	20	E
Vanadium	515	10.0	ug/L	500	BLOOD	103	75-125	0.334	20	
Zinc	497	10.0	ug/L	500	BLOOD	99.5	75-125	0.377	20	
Matrix Spike Dup (BB0667-MSD3)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/05/2018			
Barium	510	10.0	ug/L	500	BLOOD	102	75-125	2.78	20	
Cadmium	506	4.0	ug/L	500	BLOOD	101	75-125	2.60	20	
Chromium	505	10.0	ug/L	500	BLOOD	101	75-125	2.60	20	
Lead	508	10.0	ug/L	500	BLOOD	102	75-125	2.14	20	
Selenium	493	50.0	ug/L	500	BLOOD	98.6	75-125	2.28	20	
Silver	99.2	10.0	ug/L	100	BLOOD	99.2	75-125	2.99	20	
Ti	91.8	20.0	ug/L	100	BLOOD	91.8	75-125	0.30	20	
Matrix Spike Dup (BB0667-MSD4)										
	Source: 18H076-01			Prepared: 09/28/2018			Analyzed: 10/05/2018			
Barium	529	10.0	ug/L	500	BLOOD	93.8	75-125	0.992	20	
Cadmium	474	4.0	ug/L	500	BLOOD	94.8	75-125	1.25	20	
Chromium	482	10.0	ug/L	500	BLOOD	95.5	75-125	1.33	20	
Lead	473	10.0	ug/L	500	BLOOD	94.4	75-125	0.894	20	
Selenium	474	50.0	ug/L	500	BLOOD	94.8	75-125	1.12	20	
Silver	94.8	10.0	ug/L	100	BLOOD	94.8	75-125	1.75	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Methods (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch 880987 - EPA/201.9/2.1										
Main: Spike Dup (880987-M004) Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
To:	71.8	20.0	ug/L	100	BLOD	71.8	75-125	1.08	20	
Batch 880988 - EPA/201.9/2.1										
Blank (880988-BLK1) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Blank (880988-BLK2) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	BLOD	2.00	ug/L							
LCS (880988-B51) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	49.1	5.00	ug/L	50.0		98.1	80-120			
Arsenic	50	5.0	ug/L	50.0		99.3	80-120			
LCS (880988-B52) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	51.0	2.00	ug/L	50.0		102	80-120			
LCS Dup (880988-B5D1) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Antimony	49.2	5.00	ug/L	50.0		98.4	80-120	0.315	20	
Arsenic	51	5.0	ug/L	50.0		101	80-120	1.95	30	
LCS Dup (880988-B5D2) Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	50.7	2.00	ug/L	50.0		101	80-120	0.992	20	
Main: Spike (880988-M01) Source: 181981-01 Prepared: 09/28/2018 Analyzed: 10/05/2018										
Antimony	49.5	5.00	ug/L	50.0	BLOD	99.0	75-125			
Arsenic	50	5.0	ug/L	50.0	BLOD	101	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Matrix (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BB0868 - EPA201.1.5.1										
Matrix Spike (BB0868-MS1) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/02/2018										
Thallium	50.1	2.00	ug/L	50.0	BLOD	100	75-125			
Matrix Spike Dup (BB0868-MSD1) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/02/2018										
Antimony	50.1	5.00	ug/L	50.0	BLOD	100	75-125	1.29	20	
Arsenic	51	5.0	ug/L	50.0	BLOD	102	75-125	1.15	20	
Matrix Spike Dup (BB0868-MSD2) Source: 181081-01 Prepared: 09/28/2018 Analyzed: 10/03/2018										
Thallium	50.2	2.00	ug/L	50.0	BLOD	100	75-125	0.345	20	
Batch BBJ0217 - SW7470A										
Blank (BBJ0217-BLK1) Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	BLOD	0.20	ug/L							
LCS (BBJ0217-B91) Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.54	0.20	ug/L	2.50		102	80-120			
LCS Dup (BBJ0217-B3D1) Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.54	0.20	ug/L	2.50		102	80-120	0.146	20	
Matrix Spike (BBJ0217-MS1) Source: 181076-02 Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.41	0.20	ug/L	2.50	BLOD	96.4	80-120			
Matrix Spike (BBJ0217-MS2) Source: 181081-01 Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	1.82	0.20	ug/L	1.80	BLOD	121.7	80-120			W
Matrix Spike (BBJ0217-MS3) Source: 181116-01 Prepared: 10/05/2018 Analyzed: 10/08/2018										
Mercury	2.26	0.20	ug/L	2.50	BLOD	100	80-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Metals (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 88-0217 - 8974084										
Matrix Spike Dup (88-0217-89701)	Source: 181876-82			Prepared: 10/02/2018 Analyzed: 10/08/2018						
Mercury	2.38	0.20	ug/L	2.50	BLGD	95.2	80-120	1.30	20	
Matrix Spike Dup (88-0217-89702)	Source: 181881-81			Prepared: 10/02/2018 Analyzed: 10/08/2018						
Mercury	1.75	0.20	ug/L	2.50	BLGD	70.0	80-120	3.30	20	M
Matrix Spike Dup (88-0217-89703)	Source: 181118-81			Prepared: 10/05/2018 Analyzed: 10/08/2018						
Mercury	3.71	0.20	ug/L	3.50	BLGD	106	80-120	5.83	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limits	RPD	RPD Limit	Qual
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Batch: 09-0003 - 090008

Batch: 09-0003-090008

Prepared & Analyzed: 09/28/2018

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,2-Dichlorobenzene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1-Hexane (MIX)	BL00	5.00	ug/L
2-Hexane (MIX)	BL00	5.00	ug/L
4-Methyl-2-pentane (MIX)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acetonitrile	BL00	5.00	ug/L
Benzene	BL00	1.00	ug/L
Bromochloromethane	BL00	1.00	ug/L
Bromoethane	BL00	0.50	ug/L
Bromobenzene	BL00	1.00	ug/L
Bromomethane	BL00	1.00	ug/L
Carbon disulfide	BL00	10.0	ug/L
Carbon tetrachloride	BL00	1.00	ug/L
Chlorobenzene	BL00	1.00	ug/L
Chloroethane	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:24:58PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: 08-0003 - 090008

Batch (08-0003-090008)

Prepared & Analyzed: 09/28/2018

Chlorobenzene	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,2-Dichloropropene	BL00	1.00	ug/L							
Dibenzylhydrazine	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Isobutylene	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methylcyclohexane	BL00	4.00	ug/L							
Naphthalene	BL00	1.00	ug/L							
o-Xylene	BL00	1.00	ug/L							
Olefins	BL00	1.00	ug/L							
Tetrachloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,2-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butadiene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	3.00	ug/L							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BBJ0013 - SW5030B										
Blank (BBJ0013-BLK1)										
<i>Prepared & Analyzed: 09/29/2018</i>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	50.0		ug/L	50.0		100	75-125			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.4		ug/L	50.0		103	75-125			
<i>Surr: Dibromofluoromethane (Surr)</i>	50.4		ug/L	50.0		101	75-125			
<i>Surr: Toluene-d9 (Surr)</i>	50.0		ug/L	50.0		100	75-125			
VOCs (BBJ0013-SM)										
<i>Prepared & Analyzed: 09/29/2018</i>										
1,1,1,2-Tetrafluoroethane	81.3	0.4	ug/L	80.0		103	60-120			
1,1,1-Trichloroethane	54.8	1	ug/L	50.0		109	65-130			
1,1,1,2-Tetrachloroethane	43.7	0.4	ug/L	40.0		109	65-130			
1,1,2-Trichloroethane	51.8	1	ug/L	50.0		104	75-125			
1,1-Dichloroethane	51.0	1	ug/L	50.0		102	75-125			
1,1-Dichloroethylene	85.5	1	ug/L	80.0		107	75-125			
1,2-Dichloropropane	46.0	1	ug/L	50.0		92.0	75-125			
1,2-Dichlorobenzene	49.9	1	ug/L	50.0		99.8	75-125			
1,2-Dibromoethane	44.4	1	ug/L	40.0		111	75-125			
1,2-Dibromopropane	44.0	1	ug/L	50.0		88.0	75-125			
1,4-Dichlorobenzene	50.0	1	ug/L	50.0		101	75-125			
2-Butanone (MEK)	46.0	5	ug/L	50.0		92.0	30-100			
2-Hexanone (MIBK)	41.1	5	ug/L	50.0		82.2	50-100			
4-Methyl-2-pentanone (MBO)	44.8	5	ug/L	50.0		89.6	60-120			
Acetone	45.8	10	ug/L	50.0		91.6	40-140			
Acrylonitrile	208	0	ug/L	200		104	75-125			
Benzene	82.1	1	ug/L	80.0		103	60-120			
Bromochloromethane	54.3	1	ug/L	50.0		109	65-130			
Bromodichloromethane	53.0	0.5	ug/L	50.0		106	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: 09-0013 - 090008										
LOQ: 09-0013-0010										
Prepared & Analyzed: 09/29/2018										
Bromobenzene	50.8	1	ug/L	50.0		101	75-125			
Bromomethane	42.9	1	ug/L	50.0		84.8	30-150			
Carbon disulfide	50.4	10	ug/L	50.0		121	30-150			
Carbon tetrachloride	50.9	1	ug/L	50.0		111	40-140			
Chlorobenzene	50.1	1	ug/L	50.0		100	80-120			
Chloroethane	55.2	1	ug/L	50.0		88.4	80-120			
Chloroform	50.1	0.5	ug/L	50.0		100	80-120			
Chloromethane	44.7	1	ug/L	50.0		89.4	40-120			
cis-1,2-Dichloroethylene	51.1	1	ug/L	50.0		102	70-120			
cis-1,3-Dichloropropene	21.8	1	ug/L	50.0		60	70-120			
Dibromodichloroethane	54.0	0.5	ug/L	50.0		108	80-120			
Dibromomethane	49.8	1	ug/L	50.0		99.7	70-120			
Dichlorodifluoromethane	45.1	1	ug/L	50.0		90.2	30-100			
Ethylbenzene	52.3	1	ug/L	50.0		105	70-120			
trans-1,2-Dichloroethylene	108	2	ug/L	120		108	70-120			
Methylene chloride	49.8	4	ug/L	50.0		99.7	30-140			
Naphthalene	47.8	1	ug/L	50.0		95.7	50-140			
o-Xylene	49.4	1	ug/L	50.0		98.8	80-120			
Styrene	52.8	1	ug/L	50.0		106	80-120			
Trichloroethylene (PCE)	24.7	1	ug/L	50.0		49	40-100			
Toluene	50.4	1	ug/L	50.0		101	70-120			
trans-1,2-Dichloroethylene	50.1	1	ug/L	50.0		104	80-140			
trans-1,3-Dichloropropene	50.2	1	ug/L	50.0		100	50-140			
Trichloroethylene	52.9	1	ug/L	50.0		106	70-120			
Trichlorofluoromethane	51.4	1	ug/L	50.0		103	80-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 18J0013 - 18J0018										
LOQ (18J0013-18J018)										
				Prepared & Analyzed: 09/28/2018						
Vinyl chloride	49.1	0.5	ug/L	50.0	BLDD	98.2	50-100			
Sum: 1,1-Dichloroethane-d0 (Sum)	47.8		ug/L	50.0	BLDD	95.6	75-120			
Sum: 1,1-Dibromoethene (Sum)	50.1		ug/L	50.0	BLDD	100	75-120			
Sum: Dibromofluoromethane (Sum)	49.4		ug/L	50.0	BLDD	98.7	75-120			
Sum: Toluene-d8 (Sum)	50.4		ug/L	50.0	BLDD	101	75-120			
Matrix Spike (18J0013-M51)										
		Source: 18J0013-01			Prepared & Analyzed: 09/28/2018					
1,1,1,2-Tetrachloroethane	47.4	0.4	ug/L	50.0	BLDD	94.8	65-100			
1,1,1-Trichloroethane	51.3	1	ug/L	50.0	BLDD	103	65-100			
1,1,2,2-Tetrachloroethane	41.2	0.4	ug/L	50.0	BLDD	82.4	65-100			
1,1,2-Trichloroethane	49.0	1	ug/L	50.0	BLDD	98.0	75-120			
1,1-Dichloroethane	55.9	1	ug/L	50.0	7.12	111.8	75-120			
1,1-Dichloroethylene	47.2	1	ug/L	50.0	BLDD	94.4	75-120			
1,2,3-Trichloropropane	42.1	1	ug/L	50.0	BLDD	84.2	75-120			
1,2-Dichlorobenzene	46.6	1	ug/L	50.0	BLDD	93.1	75-120			
1,2-Dichloroethane	47.3	1	ug/L	50.0	BLDD	94.6	75-120			
1,2-Dichloropropane	45.6	1	ug/L	50.0	0.52	101.1	75-120			
1,4-Dichlorobenzene	50.0	1	ug/L	50.0	3.84	100.8	75-120			
2-Butanone (MEX)	42.4	5	ug/L	50.0	BLDD	84.8	30-100			
2-Hexanone (MEX)	40.0	5	ug/L	50.0	BLDD	79.9	30-100			
4-Methyl-2-pentanone (MEX)	45.1	5	ug/L	50.0	BLDD	90.2	30-100			
Acetone	41.3	10	ug/L	50.0	BLDD	78.6	40-140			
Acrylonitrile	500	5	ug/L	200	BLDD	78.8	75-120			
Benzene	50.6	1	ug/L	50.0	1.80	99.0	60-120			
Bromochloromethane	52.1	1	ug/L	50.0	BLDD	104	65-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Volatle Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch 08-0013 - 090008

Matrix Spike (08-0013-MS1)	Source: 081881-01	Prepared & Analyzed: 09/28/2018								
Bromochloromethane	45.1	0.5	ug/L	50.0	BL00	90.2	75-120			
Bromobenzene	45.3	1	ug/L	50.0	BL00	90.6	75-120			
Bromomethane	26.1	1	ug/L	50.0	BL00	78.2	20-140			
Carbon disulfide	67.8	10	ug/L	50.0	BL00	116	24-160			
Carbon tetrachloride	15.6	1	ug/L	50.0	BL00	100	60-140			
Chlorobenzene	49.2	1	ug/L	50.0	2.84	91.6	60-120			
Chloroethane	49.0	1	ug/L	50.0	2.04	70.8	60-120			
Chloroform	49.4	0.5	ug/L	50.0	BL00	90.7	60-120			
Chloromethane	49.4	1	ug/L	50.0	BL00	64.7	40-120			
cis-1,2-Dichloroethylene	59.0	1	ug/L	50.0	8.87	100	70-120			
cis-1,3-Dichloropropene	45.0	1	ug/L	50.0	BL00	90.1	75-120			
Chloroacetonitrile	51.9	0.5	ug/L	50.0	BL00	100	60-120			
Dibromomethane	45.5	1	ug/L	50.0	BL00	90.0	75-120			
Diphenylacetylene	42.9	1	ug/L	50.0	BL00	80.9	20-120			
Ethylbenzene	47.0	1	ug/L	50.0	BL00	94.6	75-120			
m,p-Xylenes	67.0	2	ug/L	100	BL00	67.4	75-120			
Methylene chloride	45.0	4	ug/L	50.0	BL00	51.4	50-140			
Naphthalene	43.8	1	ug/L	50.0	BL00	87.7	50-140			
o-Xylene	46.2	1	ug/L	50.0	BL00	92.5	60-120			
Styrene	46.1	1	ug/L	50.0	BL00	88.3	60-120			
Tetrachloroethylene (PCE)	67.4	1	ug/L	50.0	BL00	134	40-120			
Toluene	49.9	1	ug/L	50.0	BL00	97.9	75-120			
trans-1,2-Dichloroethylene	49.6	1	ug/L	50.0	BL00	99.7	60-140			
trans-1,3-Dichloropropene	46.5	1	ug/L	50.0	BL00	93.0	60-140			
Trichloroethylene	49.1	1	ug/L	50.0	0.24	91.4	75-120			

Certificate of Analysis

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill
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Date Issued: 10/10/2018 4:24:58PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BBJ0013 - SW5030B										
Matrix Spike (BBJ0013-MS1) Source: 181081-01 Prepared & Analyzed: 09/28/2018										
Trichlorofluoromethane	47.9	1	ug/L	50.0	BLOD	95.8	90-145			
Vinyl chloride	50.5	0.5	ug/L	50.0	3.08	96.8	90-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>										
	49.8		ug/L	50.0		99.6	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>										
	50.7		ug/L	50.0		101	70-120			
<i>Surr: Dibromofluoromethane (Surr)</i>										
	55.8		ug/L	50.0		101	70-130			
<i>Surr: Heptane-d8 (Surr)</i>										
	50.0		ug/L	50.0		100	70-130			
Matrix Spike (Sug) (BBJ0013-MS01) Source: 181081-01 Prepared & Analyzed: 09/28/2018										
1,1,1-Trichloroethane	48.0	0.4	ug/L	50.0	BLOD	92.0	80-130	2.91	30	
1,1,1-Trifluoroethane	47.8	1	ug/L	50.0	BLOD	95.6	65-130	7.06	30	
1,1,2,2-Tetrachloroethane	45.7	0.4	ug/L	50.0	BLOD	97.4	65-130	5.84	30	
1,1,2-Trichloroethane	48.8	1	ug/L	50.0	BLOD	97.7	75-125	0.358	30	
1,1-Dichloroethane	50.6	1	ug/L	50.0	7.17	92.9	70-135	4.05	30	
1,1-Dichloroethylene	44.2	1	ug/L	50.0	BLOD	88.4	70-130	6.58	30	
1,1,2-Trichloropropane	48.5	1	ug/L	50.0	BLOD	91.0	75-125	7.71	30	
1,2-Dichloroethane	45.8	1	ug/L	50.0	BLOD	90.8	70-120	2.09	30	
1,2-Dichloropropane	45.4	1	ug/L	50.0	BLOD	90.9	70-130	4.00	30	
1,2-Dichloropropane	44.2	1	ug/L	50.0	5.52	87.4	75-125	3.07	30	
1,4-Dichlorobenzene	48.9	1	ug/L	50.0	3.84	90.0	75-125	2.82	30	
2-Butanone (MEK)	45.7	5	ug/L	50.0	BLOD	91.5	30-150	7.51	30	
2-Pentanone (MIBK)	43.1	5	ug/L	50.0	BLOD	86.2	30-130	7.83	30	
4-Methyl-2-pentanone (MBOC)	47.0	5	ug/L	50.0	BLOD	94.0	30-130	4.12	30	
Acetone	45.2	10	ug/L	50.0	BLOD	90.8	40-140	6.13	30	
Acrylonitrile	208	5	ug/L	200	BLOD	82.5	75-130	3.28	30	
Benzene	47.8	1	ug/L	50.0	1.80	92.8	80-130	5.56	30	

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
Batch 08-0013 - 000008										
Matrix Spike (sp) (08/09/18-08/09/18)										
Source: 181881491 Prepared & Analyzed: 09/28/2018										
Bromochloromethane	50.1	1	ug/L	50.0	BLCO	100	85-130	3.90	30	
Bromodichloromethane	49.2	0.5	ug/L	50.0	BLCO	96.4	75-130	1.94	30	
Bromofluoromethane	47.7	1	ug/L	50.0	BLCO	95.4	75-130	6.20	30	
Bromomethane	36.4	1	ug/L	50.0	BLCO	79.9	90-140	1.92	30	
Carbon disulfide	55.7	10	ug/L	50.0	BLCO	111	35-160	3.05	30	
Carbon tetrachloride	48.9	1	ug/L	50.0	BLCO	96.8	80-140	6.75	30	
Chlorobenzene	47.8	1	ug/L	50.0	2.94	90.7	80-130	0.799	30	
Chloroethane	45.6	1	ug/L	50.0	2.94	87.1	80-130	7.14	30	
Chloroform	45.4	0.5	ug/L	50.0	BLCO	99.8	80-130	6.37	30	
Chloromethane	34.0	1	ug/L	50.0	BLCO	77.1	40-130	6.47	30	
cis-1,2-Dichloroethylene	56.2	1	ug/L	50.0	8.87	94.8	75-130	4.85	30	
cis-1,3-Dichloropropene	46.0	1	ug/L	50.0	BLCO	91.8	75-130	4.44	30	
Dibromochloromethane	46.4	0.5	ug/L	50.0	BLCO	98.8	80-130	3.04	30	
Dibromomethane	47.2	1	ug/L	50.0	BLCO	94.4	75-130	1.03	30	
Dichlorodifluoromethane	35.9	1	ug/L	50.0	BLCO	79.9	30-150	7.19	30	
Ethylbenzene	46.4	1	ug/L	50.0	BLCO	90.7	75-130	2.35	30	
trans-1,2-Dichloroethylene	59.5	2	ug/L	100	BLCO	100	75-130	4.21	30	
Methylene chloride	45.9	4	ug/L	50.0	BLCO	47.4	50-160	6.69	30	
Naphthalene	32.0	1	ug/L	50.0	BLCO	104	50-140	17.3	30	
p-Xylene	44.3	1	ug/L	50.0	BLCO	88.8	80-130	4.63	30	
Styrene	47.0	1	ug/L	50.0	BLCO	94.9	80-130	3.45	30	
Tetrachloroethylene (PCE)	65.1	1	ug/L	50.0	BLCO	130	40-150	3.62	30	
Toluene	47.0	1	ug/L	50.0	BLCO	90.7	75-130	3.97	30	
trans-1,2-Dichloromethylene	46.3	1	ug/L	50.0	BLCO	92.0	80-140	4.97	30	
trans-1,3-Dichloropropene	46.0	1	ug/L	50.0	BLCO	92.1	50-140	1.04	30	

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch 08-0013 - 090308

Matrix Spike Prep (08/09/13-09/01/13)	Source: 18188149	Prepared & Analyzed: 09/26/2018							
Toluene/methylene	46.1	1 ug/L	50.0	0.94	91.2	75-125	6.50	30	
Trichlorofluoromethane	44.7	1 ug/L	50.0	BLDG	89.4	80-140	7.00	30	
Vinyl chloride	45.8	0.2 ug/L	50.0	2.08	87.1	50-140	10.1	30	
Sum: 1,3-Dichloroethane-d8 (Sum)			49.4	ug/L	50.0	95.7	70-120		
Sum: 4-Bromofluorobenzene (Sum)			51.4	ug/L	50.0	103	75-120		
Sum: Dibromofluoromethane (Sum)			50.1	ug/L	50.0	100	70-130		
Sum: Toluene-d8 (Sum)			50.9	ug/L	50.0	102	70-130		

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	SLCCL Limits	RFD	RFD Limit	Qual
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Batch: BB-0010 - BWC009C

Blank (BB-0010-BLANK)				Prepared & Analyzed: 10/01/2018						
4-Aminobiphenyl	BLGD	10.0	ug/L							
Is (2-Ethylhexyl) phthalate	BLGD	2.50	ug/L							
Dibenz (a,h) anthracene	BLGD	10.0	ug/L							
Dioctyl phthalate	BLGD	10.0	ug/L							
Di-n-butyl phthalate	BLGD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLGD	10.0	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	85.8		ug/L	100		85.8	10-85			
Sum: 2-Fluorobiphenyl (Sum)	47.2		ug/L	50.0		94.5	9-87			\$
Sum: 2-Fluorophenol (Sum)	31.6		ug/L	100		31.6	10-52			
Sum: Nitrobenzene-d5 (Sum)	42.7		ug/L	50.0		85.3	10-86.5			
Sum: Phenol-d5 (Sum)	33.2		ug/L	100		33.2	5-33			\$
Sum: p-Terphenyl-d14 (Sum)	46.7		ug/L	50.0		93.4	27-133			
LCS (BB-0010-B31)				Prepared & Analyzed: 10/01/2018						
1,2,4,5-Tetrachlorobenzene	BLGD	10.0	ug/L					0-200		
1,3,5-Trinitrobenzene	BLGD	5.00	ug/L					0-200		
1,3-Dinitrobenzene	BLGD	2.50	ug/L					0-200		
1,4-Naphthoquinone	BLGD	10.0	ug/L					0-200		
1-Naphthylamine	BLGD	10.0	ug/L					0-200		
2,3,4,6-Tetrachlorophenol	BLGD	10.0	ug/L					0-200		
2,4,6-Trichlorophenol	BLGD	10.0	ug/L					50-110		
2,4,6-Trichlorophenol	43.8	10.0	ug/L	50.0		87.0	50-110			
2,4-Dichlorophenol	44.8	10.0	ug/L	50.0		89.7	50-100			
2,4-Dimethylphenol	40.2	0.50	ug/L	50.0		80.4	30-110			
2,4-Dichlorophenol	17.8	50.0	ug/L	50.0		115	15-140			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 09-0018 - SW0019C										
LOQ (09-0018-001)										
Prepared & Analyzed: 10/01/2018										
1,4-Dinitrobenzene	51.4	10.0	ug/L	50.0		107	21-99			L
2,4-Dinitrophenol	BL00	10.0	ug/L				0-200			
1,3-Dinitrobenzene	45.2	10.0	ug/L	50.0		90.3	15-140			
2-Acetylaminofluorene	BL00	2.00	ug/L				0-200			
2-Chloronaphthalene	41.0	10.0	ug/L	50.0		81.0	45-100			
2-Fluorenone	43.0	10.0	ug/L	50.0		86.0	15-75			L
2-Methylnaphthalene	BL00	10.0	ug/L				40-100			
2-Naphthylamine	BL00	10.0	ug/L				0-200			
2-Nitrofluorene	39.009	10.0	ug/L				0-200			
2-Nitrophenol	49.2	10.0	ug/L	50.0		92.4	40-110			
1,7-Difluorobenzidine	59.1	10.0	ug/L	50.0		118	20-110			L
1,7-Dimethylbenzidine	BL00	2.00	ug/L				0-200			
1-Methylcholanthrene	BL00	10.0	ug/L				0-200			
3-Nitrofluorene	39.000	10.0	ug/L				0-200			
4,6-Dinitro-2-methylphenol	50.8	10.0	ug/L	50.0		99.2	40-100			
4-Aminodiphenyl	BL00	10.0	ug/L				0-200			
4-Bromophenyl phenyl ether	47.7	10.0	ug/L	50.0		95.3	15-110			
4-Chloraniline	BL00	10.0	ug/L				15-110			
4-Chlorophenyl phenyl ether	44.2	10.0	ug/L	50.0		88.3	15-110			
4-Fluorobenzene	BL00	10.0	ug/L				0-200			
4-Nitrophenol	18.8	10.0	ug/L	50.0		37.0	0-125			
5-Nitro-2-toluene	BL00	10.0	ug/L				0-200			
7,12-Dimethylbenz[a]anthracene	BL00	10.0	ug/L				0-200			
Acenaphthene	42.8	10.0	ug/L	50.0		84.0	27.7-85.8			L
Acenaphthylene	49.1	10.0	ug/L	50.0		98.1	50-100			

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRBC	NRBC Limits	RPD	RPD Limit	Qual
Batch: 09-0003 - SW0009C										
LOQ: 0.05-0.10-0.15										
Prepared & Analyzed: 10/01/2018										
Acetophenone	41.0	20.0	ug/L	50.0		51.8	0-200			
Anthracene	68.8	10.0	ug/L	50.0		68.8	55-110			
Benzene (a) anthracene	47.8	0.08	ug/L	50.0		50.2	55-110			
Benzene (a) pyrene	49.4	0.10	ug/L	50.0		48.7	55-110			
Benzene (b) fluoranthene	45.8	10.0	ug/L	50.0		57.1	45-120			
Benzene (p,h) perylene	42.8	10.0	ug/L	50.0		64.9	40-125			
Benzene (b) fluoranthene	55.8	10.0	ug/L	50.0		112	45-125			
Benzyl alcohol	BL00	20.0	ug/L				0-200			
Is (2-Chloromethyl) methylene	45.8	10.0	ug/L	50.0		91.8	40-125			
Is (2-Chloromethyl) ether	42.8	10.0	ug/L	50.0		65.6	40-125			
2,7-Diethyl (1-Indenyl) pyrene	35.0	10.0	ug/L	50.0		75.1	40-125			
Is (2-Methylhexyl) phenanthrene	41.4	2.50	ug/L	50.0		82.9	40-125			
Butyl benzyl phthalate	52.0	10.0	ug/L	50.0		106	45-115			
Chlorobenzene	BL00	2.50	ug/L				0-200			
Chrysene	57.8	10.0	ug/L	50.0		110	55-110			L
Decalin	BL00	2.50	ug/L				0-200			
Diene (p,h) anthracene	50.8	10.0	ug/L	50.0		100	40-125			
Dibenzofuran	BL00	5.00	ug/L				0-200			
Diallyl phthalate	48.8	10.0	ug/L	50.0		97.2	45-130			
Dibutyltin	BL00	2.50	ug/L				0-200			
Dimethyl phthalate	46.4	10.0	ug/L	50.0		60.7	25-125			
Di-n-butyl phthalate	52.8	10.0	ug/L	50.0		107	55-115			
Di-n-octyl phthalate	60.2	10.0	ug/L	50.0		121	30-130			
Diphenylamine	BL00	10.0	ug/L				0-200			
Decalin	BL00	2.50	ug/L				0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
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Batch: 08-0008 - SW0008

LC9 (08-0008-001)

Prepared & Analyzed: 10/10/2018

Ethyl methanesulfonate	BL00	20.0	ug/L				0-200			
Ethyl acetate	BL00	2.50	ug/L				0-200			
Formal	BL00	2.50	ug/L				0-200			
Fluoranthene	61.6	10.0	ug/L	50.0		100	50-110			
Fluorene	48.5	10.0	ug/L	50.0		99.8	50-110			
fluoranthene	66.0	0.00	ug/L	50.0		99.0	20-120			
Hexachlorobutadiene	45.4	10.0	ug/L	50.0		99.9	20-120			
Hexachlorocyclopentadiene	24.8	10.0	ug/L	50.0		49.5	20-120			
Hexachloroethane	16.8	10.0	ug/L	50.0		71.0	20-120			
Hexachloropenta	BL00	2.50	ug/L				0-200			
Heptachloro (1,2,3-oxo) cyclo	46.8	10.0	ug/L	50.0		92.8	45-120			
Heptachloro	BL00	10.0	ug/L				0-200			
Heptachloro	42.8	10.0	ug/L	50.0		87.8	10-110			
Heptachloro	BL00	10.0	ug/L				0-200			
Heptachloro	BL00	2.50	ug/L				0-200			
Hex-Chloro	BL00	10.0	ug/L				50-110			
Methoxychlor	BL00	10.0	ug/L				0-200			
Methyl methanesulfonate	BL00	10.0	ug/L				0-200			
Methyl acetate	BL00	2.50	ug/L				0-200			
Nonhalogenated	41.8	10.0	ug/L	50.0		87.7	40-100			
Nonhalogenated	42.9	10.0	ug/L	50.0		88.1	40-100			
n-Nonyldecylamine	BL00	2.50	ug/L				0-200			
n-Tetradecylmethylamine	15.1	10.0	ug/L	50.0		20.1	20-110			
n-Tetradecyl n-butylamine	BL00	10.0	ug/L				0-200			
n-Tetradecyl n-propylamine	60.0	10.0	ug/L	50.0		80.1	12-67			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: 08-0008 - 000008										
LOQ (08-0008-000)										
Filtered & Analyzed: 10/10/2018										
m-Nitrochlorobenzene	26.2	10.0	ug/L	50.0		26.2	10-87			
m-Nitrotoluene	BL00	2.50	ug/L				20-110			
m-Nitrophenol	BL00	10.0	ug/L				0-200			
m-Xylenes	BL00	2.50	ug/L				0-200			
o-Cresol	BL00	10.0	ug/L				0-200			
o-Dichlorobenzene	BL00	10.0	ug/L				0-200			
o-Dichloro-p-cresol	BL00	10.0	ug/L				0-200			
o-Cresol	BL00	10.0	ug/L				40-110			
o-Toluidine	BL00	2.50	ug/L				0-200			
p-Dimethylamine (substance)	BL00	2.50	ug/L				0-200			
p-Dichlorobenzene	45.4	10.0	ug/L	50.0		50.0	10-81			
p-Dichlorophenol	BL00	10.0	ug/L				0-200			
p-Dimethylamine (substance)	BL00	1.00	ug/L				0-200			
p-Toluidine	44.2	20.0	ug/L	50.0		50.0	20-100			
Phenol	BL00	10.0	ug/L				0-200			
Phenanthrene	51.3	10.0	ug/L	50.0		50.0	50-110			
Phenyl	12.8	10.0	ug/L	50.0		50.0	0-100			
Phenyl	BL00	2.50	ug/L				0-200			
p-Fluorophenol	BL00	10.0	ug/L				0-200			
Phenols	BL00	10.0	ug/L				0-200			
Pyrene	52.0	10.0	ug/L	50.0		50.0	27-110			
Styrene	BL00	2.50	ug/L				0-200			
Sum: 2,4,6-Trichlorophenol (Sum)	100		ug/L	100		100	10-80			3
Sum: 2-Fluorophenol (Sum)	47.8		ug/L	50.0		50.0	0-87			3
Sum: 2-Fluorophenol (Sum)	36.4		ug/L	100		36.4	10-50			

Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: 08-0008 - SW0008

LOQ (08-0014-001)		Prepared & Analyzed: 10/01/2018								
Sum Atrazine-equiv (Sum)	45.1		ug/L	80.0		80.0	50-80.0			
Sum Alachlor (Sum)	37.8		ug/L	100		37.8	5-33			S
Sum p-Tolophenol (Sum)	37.8		ug/L	80.0		118	27-103			

Matrix Spike (08-0010-M01)		Source: 10/01/18		Prepared: 10/01/2018 Analyzed: 10/02/2018						
1,2,4,5-Tetrachlorobenzene	BL00	11.1	ug/L		BL00		0-200			
1,2,6-Trichlorobenzene	BL00	5.56	ug/L		BL00		0-200			
1,3-Dinitrobenzene	BL00	2.78	ug/L		BL00		0-200			
1,4-Dinitrobenzene	BL00	11.1	ug/L		BL00		0-200			
1-Naphthylamine	BL00	11.1	ug/L		BL00		0-200			
2,3,4,6-Tetrachlorophenol	BL00	11.1	ug/L		BL00		0-200			
2,4,6-Trichlorophenol	BL00	11.1	ug/L		BL00		50-110			
2,4-Dichlorophenol	47.8	11.1	ug/L	55.8	BL00	86.0	50-115			
2,4-Dichlorophenol	48.4	11.1	ug/L	55.8	BL00	87.1	50-105			
1,4-Dioxinophenol	41.8	0.88	ug/L	88.8	BL00	73.4	30-110			
2,4-Dinitrophenol	85.2	55.6	ug/L	55.6	BL00	153	15-140			M
1,4-Dinitrobenzene	55.7	11.1	ug/L	55.8	BL00	105	17-111			
1,6-Dichlorophenol	BL00	11.1	ug/L		BL00		0-200			
1,5-Dinitrobenzene	48.3	11.1	ug/L	55.8	BL00	87.8	15-140			
2-Acetylaminofluorene	BL00	2.78	ug/L		BL00		0-200			
2-Chloronaphthalene	44.8	11.1	ug/L	55.8	BL00	84.3	45-105			
2-Chlorophenol	44.8	11.1	ug/L	55.8	BL00	80.8	10-84			M
2-Methylnaphthalene	BL00	11.1	ug/L		BL00		45-105			
2-Naphthylamine	BL00	11.1	ug/L		BL00		0-200			
2-Nitroaniline	BL00	10.2	ug/L		BL00		0-200			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 08-0008 - 090008										
Matrix Spike (08/09/18-09/1)										
Source: 18188149										
Prepared: 10/10/2018 Analyzed: 10/10/2018										
2-Termyphenol	54.8	11.1	ug/L	55.8	BL00	91.8	80-115			
2,7-Dichlorodibenzofuran	49.7	11.1	ug/L	55.8	BL00	89.8	10-85			M
2,7-Dimethylbenzofuran	BL00	2.78	ug/L		BL00		0-200			
2-Methylcoumarone	BL00	11.1	ug/L		BL00		0-200			
3-Methylindole	BL00	12.2	ug/L		BL00		0-200			
4-Ethyl-2-methylpyridine	57.8	10.8	ug/L	55.8	BL00	122	80-120			
4-Aminobiphenyl	BL00	11.1	ug/L		BL00		0-200			
4-Isomophenyl phenyl ether	54.8	11.1	ug/L	55.8	BL00	98.2	10-110			
4-Chloroaniline	88.755	11.1	ug/L		BL00		10-110			
4-Chlorophenyl phenyl ether	48.1	11.1	ug/L	55.8	BL00	86.7	10-110			
4-Nitroaniline	BL00	12.2	ug/L		BL00		0-200			
4-Termyphenol	34.9	10.8	ug/L	55.8	BL00	44.1	0-120			
5-Methyl-2-indole	BL00	11.1	ug/L		BL00		0-200			
7-(2-Chlorophenyl) oxanthrene	BL00	11.1	ug/L		BL00		0-200			
Acenaphthene	48.1	11.1	ug/L	55.8	BL00	86.8	24-80			
Acenaphthylene	51.4	11.1	ug/L	55.8	BL00	92.4	50-100			
Acenaphthone	40.4	12.2	ug/L	55.8	BL00	72.2	0-200			
Anthracene	55.9	11.1	ug/L	55.8	BL00	99.0	55-110			
Benzofuran (a) anthracene	58.1	0.58	ug/L	55.8	BL00	108	55-110			
Benzofuran (a) pyrene	51.5	0.51	ug/L	55.8	BL00	92.7	55-110			
Benzofuran (a) fluoranthene	52.1	11.1	ug/L	55.8	BL00	93.8	40-120			
Benzofuran (a) perylene	47.9	11.1	ug/L	55.8	BL00	85.1	40-120			
Benzofuran (a) fluoranthene	55.4	11.1	ug/L	55.8	BL00	99.7	40-120			
Benzyl alcohol	BL00	12.2	ug/L		BL00		0-200			
Is (2-Chloromethyl) methane	48.1	11.1	ug/L	55.8	BL00	86.8	40-120			

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 090008										
Main: Spike (08/08/18-M01)										
	Source: 10/10/18-01			Prepared: 10/10/2018		Analyzed: 10/09/2018				
Is (2-Chloroethyl) ether	44.2	11.1	ug/L	55.4	BL00	79.5	40-125			
1,2-Dichloro (1-chloropropane)	42.4	11.1	ug/L	55.4	BL00	76.4	40-125			
Is (2-Ethylhexyl) phthalate	45.8	2.78	ug/L	55.4	BL00	82.8	40-125			
Butyl benzyl phthalate	62.0	11.1	ug/L	55.4	BL00	112	40-110			
Chlorobenzene	BL00	2.78	ug/L		BL00		0-200			
Cyclohexane	55.4	11.1	ug/L	55.4	BL00	100	50-110			M
Dichloro	BL00	2.78	ug/L		BL00		0-200			
Dipropyl phthalate	50.8	11.1	ug/L	55.4	BL00	91.4	40-125			
Dimethylbenzene	55.700	5.46	ug/L		BL00		0-200			
Dioctyl phthalate	54.1	11.1	ug/L	55.4	BL00	97.3	40-120			
Dodecane	BL00	2.78	ug/L		BL00		0-200			
Dioctyl phthalate	44.5	11.1	ug/L	55.4	BL00	80.0	20-125			
Di-n-butyl phthalate	50.2	11.1	ug/L	55.4	BL00	90	50-110			
Di-n-octyl phthalate	54.4	11.1	ug/L	55.4	BL00	101	20-120			
Dibenzylbenzene	BL00	11.1	ug/L		BL00		0-200			
Decalin	BL00	2.78	ug/L		BL00		0-200			
Ethyl methanesulfonate	BL00	10.2	ug/L		BL00		0-200			
Ethyl parathion	BL00	2.78	ug/L		BL00		0-200			
Fluorfen	BL00	2.78	ug/L		BL00		0-200			
Fluorfenox	55.8	11.1	ug/L	55.4	BL00	100	50-110			
Fluorene	51.8	11.1	ug/L	55.4	BL00	92.9	50-110			
Hexachlorobenzene	54.7	0.08	ug/L	55.4	BL00	100	20-120			
Hexachlorobutadiene	45.9	11.1	ug/L	55.4	BL00	82.4	20-120			
Hexachlorocyclopentadiene	24.3	11.1	ug/L	55.4	BL00	43.8	10-80			
Hexachlorocyclohexane	26.4	11.1	ug/L	55.4	BL00	47.0	20-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: 88-0008 - 880008

Matrix Spike (88-0010-M01)	Source: 10/10/18			Prepared: 10/10/2018 Analyzed: 10/10/2018						
Hexachlorocyclopentadiene	BL00	2.78	ug/L		BL00		0-200			
Indene (1,2,3-cis) pyrene	49.4	11.1	ug/L	55.8	BL00	55.8	40-125			
Isocoumarin	BL00	11.1	ug/L		BL00		0-200			
Isophthalic acid	44.9	11.1	ug/L	44.9	BL00	44.9	10-110			
Isosalicylic acid	BL00	11.1	ug/L		BL00		0-200			
Isoprene	BL00	2.78	ug/L		BL00		0-200			
m,p-Cresols	BL00	11.1	ug/L		BL00		0-200			
Methoxytoluene	BL00	11.1	ug/L		BL00		0-200			
Methyl isobutylcarbazole	BL00	11.1	ug/L		BL00		0-200			
Methyl parathion	BL00	2.78	ug/L		BL00		0-200			
Naphthalene	47.2	11.1	ug/L	55.8	BL00	54.8	40-100			
Nonane	49.8	11.1	ug/L	55.8	BL00	52.5	40-100			
n-Nonadecylamine	BL00	2.78	ug/L		BL00		0-200			
n-Nonadecylmethanamine	26.7	11.1	ug/L	55.8	BL00	49.1	20-110			
n-Nonadecyl n-butylamine	BL00	11.1	ug/L		BL00		0-200			
n-Nonadecyl-n-propylamine	43.6	11.1	ug/L	55.8	BL00	39.5	12-57			
n-Nonadecylphenylamine	42.5	11.1	ug/L	55.8	BL00	39.2	12-57			
n-Tetradecylamine	BL00	2.78	ug/L		BL00		20-110			
n-Tetradecylamine	BL00	11.1	ug/L		BL00		0-200			
n-Tetradecylamine	BL00	2.78	ug/L		BL00		0-200			
n,n-Dimethyl phosphorothioate	BL00	11.1	ug/L		BL00		0-200			
n,n-Diethyl n-2-propenyl phosphorothioate	BL00	11.1	ug/L		BL00		0-200			
o,m,p-Cresols	BL00	11.1	ug/L		BL00		0-200			
o-Cresol	BL00	11.1	ug/L		BL00		40-110			
o-Toluidine	BL00	2.78	ug/L		BL00		0-200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
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Batch 88-0008 - SW0008

Matrix Spike (88-0010-M51)			Source: 181981-01		Prepared: 10/10/2018		Analyzed: 10/02/2018			
p-Dimethylamine acetate	BL00	2.78	ug/L		BL00		0-200			
p-Chloro-m-xylol	66.8	11.1	ug/L	66.8	BL00	67.4	10-81			
Perfluorobenzene	BL00	11.1	ug/L		BL00		0-200			
Perfluoromethylbenzene (quintozene)	BL00	1.19	ug/L		BL00		0-200			
Perfluorophenyl	71.7	10.2	ug/L	61.8	BL00	100	17-100	M		
Phenacetin	BL00	11.1	ug/L		BL00		0-200			
Phenanthrene	57.6	11.1	ug/L	50.8	BL00	704	30-718			
Phenol	21.4	11.1	ug/L	66.7	BL00	66.2	0-105			
Phenol	BL00	2.78	ug/L		BL00		0-200			
p-Phenylenediamine	BL00	11.1	ug/L		BL00		0-200			
Pinacol	BL00	11.1	ug/L		BL00		0-200			
Pyrene	16.4	11.1	ug/L	66.8	BL00	107	20-710			
Selin	BL00	2.78	ug/L		BL00		0-200			
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Sum: 1,4-Dichlorophenyl (Sum)	100		ug/L	100		608	10-88		S	
Sum: 2-Fluorophenyl (Sum)	60.0		ug/L	66.8		60.0	0-87		S	
Sum: 2-Fluorophenyl (Sum)	47.8		ug/L	100		40.0	10-60			
Sum: Nitrobenzene-d5 (Sum)	49.8		ug/L	66.8		60.0	10-66.0			
Sum: Phenol-d5 (Sum)	40.7		ug/L	100		36.8	0-10		S	
Sum: p-Tolylphenyl-d14 (Sum)	30.7		ug/L	66.8		64.8	20-100			
<hr/>										
Matrix Spike (88-0010-M52)			Source: 180022-01		Prepared & Analyzed: 10/10/2018					
1,2,4,6-Tetrachlorobenzene	BL00	100	ug/L		BL00		0-200			
1,1,2-Trichlorobenzene	BL00	66.7	ug/L		BL00		0-200			
1,3-Dichlorobenzene	BL00	10.0	ug/L		BL00		0-200			
1,4-Naphthoquinone	BL00	100	ug/L		BL00		0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
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Batch: 08-0003 - 000000

Matrix Spike (08/09/18-MSD)	Source: 180002-01			Prepared & Analyzed: 10/01/2018						
1-Naphthylamine	BL00	100	ug/L		BL00		0-200			
1,2,4,6-Tetrahydrophenol	BL00	100	ug/L		BL00		0-200			
1,4,5-Trichlorophenol	BL00	100	ug/L		BL00		50-110			
1,4,6-Trichlorophenol	99	100	ug/L	907	BL00	67.9	50-110			
1,4-Dichlorophenol	365	100	ug/L	907	BL00	94.8	50-100			
1,4-Dimethylphenol	644	5.07	ug/L	907	BL00	91.8	20-110			
1,4-Dichlorophenol	708	907	ug/L	907	BL00	108	10-140			
1,4-Dinitrobenzene	999	100	ug/L	907	BL00	89.9	10-110			
1,6-Dichlorophenol	8970	100	ug/L		BL00		0-200			
1,6-Dinitrobenzene	401	100	ug/L	907	BL00	67.7	10-140			
1-Acetylnaphthalene	BL00	50.0	ug/L		BL00		0-200			
1-Chloronaphthalene	161	100	ug/L	907	BL00	12.8	40-100			
2-Chlorophenol	354	100	ug/L	907	BL00	50.1	10-60			
2-Methylnaphthalene	BL00	100	ug/L		BL00		40-100			
2-Naphthylamine	BL00	100	ug/L		BL00		0-200			
2-Nitrobenzene	BL00	200	ug/L		BL00		0-200			
2-Terphenol	391	100	ug/L	907	BL00	98.8	40-110			
1,7-Dichlorobenzidine	478	100	ug/L	907	BL00	100	10-60			N
1,7-Dimethylbenzidine	BL00	10.0	ug/L		BL00		0-200			
1-Methylchlorobenzene	BL00	100	ug/L		BL00		0-200			
2-Nitroaniline	BL00	200	ug/L		BL00		0-200			
4,6-Dimethyl-2-naphthylphenol	624	907	ug/L	907	BL00	90.8	40-100			
4-Aminobiphenyl	BL00	100	ug/L		BL00		0-200			
4-Bromophenyl phenyl ether	478	100	ug/L	907	BL00	71.7	10-110			
4-Chloroaniline	BL00	100	ug/L		BL00		10-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: 08-0003 - 000000										
Main: Spike (08-0003-MSD)										
Source: 18092241										
Prepared & Analyzed: 10/01/2018										
4-Chlorophenyl phenyl ether	408	100	ug/L	607	BL00	61.2	15-110			
4-Nitroaniline	BL00	267	ug/L	607	BL00		0-200			
4-Nitrophenol	220	667	ug/L	607	BL00	30.8	0-100			
4-Terc-o-cresoline	BL00	100	ug/L	607	BL00		0-200			
7-(2-Chlorophenyl) (a) anthracene	BL00	100	ug/L	607	BL00		0-200			
Acenaphthene	388	100	ug/L	607	BL00	57.8	24-90			
Acenaphthylene	414	100	ug/L	607	BL00	62.0	30-100			
Acenaphthylene	347	267	ug/L	607	BL00	52.1	0-200			
Anthracene	195	100	ug/L	607	BL00	29.0	50-110			
Benzo (a) anthracene	380	0.07	ug/L	607	BL00	54.8	50-110			
Benzo (a) pyrene	571	1.50	ug/L	607	BL00	85.7	50-110			
Benzo (b) fluoranthene	577	100	ug/L	607	BL00	86.8	40-120			
Benzo (g,h,i) perylene	466	100	ug/L	607	BL00	74.2	40-120			
Benzo (k) fluoranthene	600	100	ug/L	607	BL00	89.2	40-120			
Benzyl alcohol	BL00	267	ug/L	607	BL00		0-200			
1a (2-Chloromethyl) methylene	370	100	ug/L	607	BL00	56.2	40-120			
1a (2-Chloromethyl) ether	347	100	ug/L	607	BL00	52.1	40-120			
1,2-Dioxin (1-oxodioxane)	218	100	ug/L	607	BL00	47.3	40-120			
1a (2-Ethylhexyl) phthalate	483	33.3	ug/L	607	BL00	72.8	40-120			
Butyl benzyl phthalate	600	100	ug/L	607	BL00	89.0	40-110			
Chromanthrene	BL00	33.3	ug/L	607	BL00		0-200			
Chrysene	660	100	ug/L	607	BL00	100	50-110			
Dibenz	BL00	33.3	ug/L	607	BL00		0-200			
Dibenz (a,h) anthracene	647	100	ug/L	607	BL00	96.1	40-120			
Dibenzofuran	BL00	66.7	ug/L	607	BL00		0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 08-0018 - 000100

Matrix Spike (08-0018-MS1)	Source: 10002241	Prepared & Analyzed: 10/11/2018								
Dethyl phthalate	511	100	ug/L	507	BL00	78.7	40-120			
Dimethyl	BL00	31.3	ug/L		BL00		0-200			
Dioctyl phthalate	468	100	ug/L	507	BL00	88.8	25-125			
Di-n-butyl phthalate	470	100	ug/L	507	BL00	94.9	50-110			
Dioctyl phthalate	658	100	ug/L	507	BL00	101	30-130			
Diphenylamine	BL00	100	ug/L		BL00		0-200			
Dodecane	BL00	31.3	ug/L		BL00		0-200			
Ethyl methacrylate	BL00	267	ug/L		BL00		0-200			
Ethyl acetate	BL00	15.9	ug/L		BL00		0-200			
Fenchone	BL00	31.3	ug/L		BL00		0-200			
Fluoranthene	578	100	ug/L	507	BL00	88.8	55-115			
Fluorene	468	100	ug/L	507	BL00	78.4	50-110			
Hexachlorobenzene	538	0.67	ug/L	507	BL00	80.6	20-120			
Hexachlorobiphenyl	519	100	ug/L	507	BL00	47.8	20-120			
Hexachlorocyclopentadiene	189	100	ug/L	507	BL00	27.6	10-60			
Hexachloroethane	200	100	ug/L	507	BL00	39.7	20-120			
Hexachlorobenzene	BL00	31.3	ug/L		BL00		0-200			
Indene (1,2,3-adi) system	507	100	ug/L	507	BL00	83.6	40-120			
Isobutyl	BL00	100	ug/L		BL00		0-200			
Isophthalic	368	100	ug/L	507	BL00	53.8	10-110			
Isosulfite	BL00	100	ug/L		BL00		0-200			
Myrene	BL00	31.3	ug/L		BL00		0-200			
n-py-Cresol	BL00	100	ug/L		BL00		0-200			
Methylcyclohexane	BL00	100	ug/L		BL00		0-200			
Methyl methacrylate	BL00	100	ug/L		BL00		0-200			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike (BBJ0010-MS2)	Source: 1810922-01			Prepared & Analyzed: 10/01/2018						
Methyl parathion	BLOD	33.3	ug/L		BLOD		0-200			
Naphthalene	358	133	ug/L	667	BLOD	53.8	40-100			
Nitrobenzene	354	133	ug/L	667	BLOD	53.1	40-100			
n-Nitrosodiethylamine	BLOD	33.3	ug/L		BLOD		0-200			
o-Nitrosodimethylamine	175	133	ug/L	667	BLOD	28.3	25-110			
n-Nitrosodipropylamine	BLOD	133	ug/L		BLOD		0-200			
n-Nitrosodimethylpropylamine	330	133	ug/L	667	BLOD	49.8	12-87			
n-Nitrosodiphenylamine	425	133	ug/L	667	BLOD	63.8	12-87			
n-Nitrosomethylpropylamine	BLOD	33.3	ug/L		BLOD		25-110			
n-Nitrosopentane	BLOD	133	ug/L		BLOD		0-200			
n-Nitrosopyrrolidine	BLOD	33.3	ug/L		BLOD		0-200			
n,n-Dimethyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200			
n,n-Diethyl o-2-cyanoethyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200			
o-methyl-Cresols	BLOD	133	ug/L		BLOD		0-200			
p-Cresol	BLOD	133	ug/L		BLOD		40-110			
m-Toluene	BLOD	33.3	ug/L		BLOD		0-200			
p-(Dimethylamino) acetobenzene	BLOD	33.3	ug/L		BLOD		0-200			
p-Chloro-m-cresol	387	133	ug/L	667	BLOD	58.0	10-81			
Perfluorobenzene	BLOD	133	ug/L		BLOD		0-200			
Perfluorobiphenylene (quintone)	BLOD	13.3	ug/L		BLOD		0-200			
Perfluorophenyl	560	267	ug/L	667	BLOD	84.0	27-108			
Phenacetylene	BLOD	133	ug/L		BLOD		0-200			
Phenanthrene	526	133	ug/L	667	BLOD	61.3	50-118			
Phenol	167	133	ug/L	671	BLOD	24.8	0-110			
Phenyl	BLOD	33.3	ug/L		BLOD		0-200			

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:38PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch BBJ0010 - SW3510C

Matrix Spike (BBJ0010-MS2)		Source: 1810922-01			Prepared & Analyzed: 10/01/2018					
p-Phenylenediamine	BLOD	133	ug/L		BLOD		0-200			
Pronamide	BLOD	133	ug/L		BLOD		0-200			
Pyrene	594	133	ug/L	667	BLOD	88.1	25-118			
Safrole	BLOD	33.3	ug/L		BLOD		0-200			
Sum: 2,4,6-Trichlorophenol (Sum)	1120		ug/L	1300		83.9	10-65			
Sum: 2,4-Dichlorophenyl (Sum)	398		ug/L	667		59.9	9-67			
Sum: 2-Fluorophenol (Sum)	500		ug/L	1300		37.5	10-62			
Sum: Nitrobenzene-ol (Sum)	660		ug/L	667		97.3	10-66.5			
Sum: m-Terchrolol (Sum)	328		ug/L	1300		24.5	5-30			
Sum: p-Tercharylol 14 (Sum)	650		ug/L	667		97.5	27-133			
Matrix Spike (ug) (BBJ0010-MS01)		Source: 1810922-01			Prepared: 10/1/2018 Analyzed: 10/02/2018					
1,2,4-Trichlorobenzene	BLOD	11.2	ug/L		BLOD		0-200		20	
1,3,5-Trichlorobenzene	BLOD	5.62	ug/L		BLOD		0-200		20	
1,4-Dichlorobenzene	BLOD	3.91	ug/L		BLOD		0-200		20	
1,4-Dichloroquinone	BLOD	11.2	ug/L		BLOD		0-200		20	
1-Naphthylamine	BLOD	11.2	ug/L		BLOD		0-200		20	
[1,3,5-Trichlorophenol	BLOD	11.2	ug/L		BLOD		0-200		20	
[2,4,6-Trichlorophenol	BLOD	11.2	ug/L		BLOD		50-118		20	
2,4,6-Trichlorophenol	37.7	11.2	ug/L	66.2	BLOD	97.0	50-118	20.8	20	P
2,4-Dichlorophenol	36.7	11.2	ug/L	66.2	BLOD	99.2	50-106	27.4	20	P
2,4-Dimethylphenol	30.8	0.56	ug/L	66.2	BLOD	55.0	30-110	27.4	20	P
2,4-Dichlorophenol	66.1	66.2	ug/L	66.2	BLOD	100	15-148	20.8	20	P
2,4-Dinitrofluorene	45.4	11.2	ug/L	66.2	BLOD	60.8	15-111	25.5	20	P
2,6-Dichlorophenol	BLOD	11.2	ug/L		BLOD		0-200		20	

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 08-0018 - 000100										
Matrix Spike Dup (08/09/18-0101)										
	Source: 181801-01		Prepared: 10/02/2018		Analyzed: 10/02/2018					
2,4-Dinitrotoluene	37.1	11.2	ug/L	50.2	BL00	50.0	15-180	25.2	20	P
2-Acetylaminofluorene	BL00	2.81	ug/L		BL00		0-200		20	
2-Chloronaphthalene	34.8	11.2	ug/L	50.2	BL00	50.0	45-100	25.2	20	P
2-Chlorophenol	20.4	11.2	ug/L	50.2	BL00	50.7	10-64	20.0	20	P
2-Methylnaphthalene	BL00	11.2	ug/L		BL00		65-100		20	
2-Naphthylamine	BL00	11.2	ug/L		BL00		0-200		20	
2-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
2-Nitrophenol	28.2	11.2	ug/L	50.2	BL00	50.2	45-115	28.4	20	P
3,4-Dibromodiphenyl ether	56.5	11.2	ug/L	50.2	BL00	50.0	10-80	25.0	20	P
3,4-Dimethylbenzidine	BL00	2.81	ug/L		BL00		0-200		20	
3-Methylcholanthrene	BL00	11.2	ug/L		BL00		0-200		20	
3-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
4,6-Dinitro-2-methylphenol	54.8	50.2	ug/L	50.2	BL00	37.1	40-130	21.7	20	P
4-Aminodiphenyl ether	BL00	11.2	ug/L		BL00		0-200		20	
4-Bromodiphenyl ether	41.0	11.2	ug/L	50.2	BL00	34.0	15-110	28.2	20	P
4-Chloroanisole	BL00	11.2	ug/L		BL00		10-110		20	
4-Chlorophenyl phenyl ether	30.0	11.2	ug/L	50.2	BL00	50.0	15-110	25.0	20	
4-Nitroanisole	BL00	20.5	ug/L		BL00		0-200		20	
4-Nitrophenol	20.0	50.2	ug/L	50.2	BL00	28.4	0-120	17.8	20	
5-Nitro-2-indoline	BL00	11.2	ug/L		BL00		0-200		20	
7,12-Dimethylbenz (a) anthracene	BL00	11.2	ug/L		BL00		0-200		20	
Acenaphthene	37.9	11.2	ug/L	50.2	BL00	47.0	24-90	23.8	20	P
Acenaphthylene	40.0	11.2	ug/L	50.2	BL00	71.1	30-100	25.1	20	P
Acenaphthone	20.0	20.5	ug/L	50.2	BL00	50.1	0-200	25.1	20	P
Anthracene	41.1	11.2	ug/L	50.2	BL00	73.1	30-110	29.0	20	P

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: 09-0003 - 090208										
Main: Spike Top (09-0018-0107)										
	Source: 10/10/18			Prepared: 10/10/2018		Analyzed: 10/10/2018				
Benz (a) anthracene	88.9	0.08	ug/L	99.2	91.00	91.6	95-110	21.3	20	P
Benz (a) pyrene	42.2	0.11	ug/L	99.2	91.00	79.2	95-110	19.8	20	
Benz (b) fluoranthene	44.8	11.2	ug/L	99.2	91.00	79.2	45-120	19.7	20	
Benz (k) fluoranthene	39.9	11.2	ug/L	99.2	91.00	64.1	40-120	27.1	20	P
Benz (a) fluoranthene	45.8	11.2	ug/L	99.2	91.00	79.0	40-120	23.2	20	P
Benzyl alcohol	91.00	20.9	ug/L		91.00		0-200		20	
Is (2-Chlorophenyl) methane	36.4	11.2	ug/L	99.2	91.00	94.7	40-120	27.8	20	P
Is (2-Chlorophenyl) ether	39.7	11.2	ug/L	99.2	91.00	69.0	40-120	26.9	20	P
1,2-Dichloro (1,4-Dioxane)	11.9	11.2	ug/L	99.2	91.00	59.8	40-120	35.1	20	P
Is (2-Ethylhexyl) phosphate	37.7	2.81	ug/L	99.2	91.00	67.0	40-120	19.8	20	
Butyl benzyl phosphate	59.2	11.2	ug/L	99.2	91.00	99.4	45-110	21.5	20	P
Chlorobenzene	91.00	2.81	ug/L		91.00		0-200		20	
Chrysene	52.8	11.2	ug/L	99.2	91.00	94.2	95-110	22.8	20	P
Dibenz	91.00	2.81	ug/L		91.00		0-200		20	
Dibenz (a,h) anthracene	28.7	11.2	ug/L	99.2	91.00	99.9	40-120	28.9	20	P
Dibenzofuran	91.00	0.02	ug/L		91.00		0-200		20	
Dibenzyl phosphate	42.7	11.2	ug/L	99.2	91.00	79.0	40-120	21.5	20	P
Dodecane	91.00	2.81	ug/L		91.00		0-200		20	
Dioctyl phosphate	38.7	11.2	ug/L	99.2	91.00	99.9	20-120	24.3	20	P
D-n-Butyl phosphate	48.5	11.2	ug/L	99.2	91.00	99.2	95-110	21.8	20	P
Dioctyl phosphate	47.4	11.2	ug/L	99.2	91.00	94.4	20-120	17.3	20	
Diphenylamine	91.00	11.2	ug/L		91.00		0-200		20	
Dodecanol	91.00	2.81	ug/L		91.00		0-200		20	
Ethyl methanesulfonate	91.00	20.9	ug/L		91.00		0-200		20	
Ethyl parathion	91.00	2.81	ug/L		91.00		0-200		20	

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC Limit	NRSC Limit	RPD	RPD Limit	Qual
Batch: 09-0018 - 000000										
Main: Spike Drop (09/01/18-01/17)										
					Source: 10/10/18		Prepared: 10/10/2018	Analyzed: 10/02/2018		
Formaldehyde	BLCO	2.01	ug/L		BLCO	0.200			20	
Fluorobenzene	49.2	11.2	ug/L	50.2	BLCO	50.4	50-110	22.3	20	P
Fluorene	40.7	11.2	ug/L	50.2	BLCO	72.8	50-110	23.4	20	P
Hexachlorobenzene	44.1	0.99	ug/L	50.2	BLCO	79.9	20-120	29.1	20	P
Hexafluorobenzene	54.3	11.2	ug/L	50.2	BLCO	81.7	20-120	28.8	20	P
Heptachlorocyclopentadiene	17.1	11.2	ug/L	50.2	BLCO	20.4	10-60	24.9	20	P
Heptachlorobenzene	28.9	11.2	ug/L	50.2	BLCO	31.8	20-120	30.7	20	P
Heptachloropropane	BLCO	2.01	ug/L		BLCO	0.200			20	
Isobutene (1,3-Butadiene) pyrene	37.7	11.2	ug/L	50.2	BLCO	47.8	40-120	27.1	20	P
Isobutene	BLCO	11.2	ug/L		BLCO	0.200			20	
Isophthalic acid	35.2	11.2	ug/L	50.2	BLCO	42.7	10-110	26.4	20	P
Isosulfone	BLCO	11.2	ug/L		BLCO	0.200			20	
Napthalene	BLCO	2.01	ug/L		BLCO	0.200			20	
o-Cresol	BLCO	11.2	ug/L		BLCO	0.200			20	
Methyl Ethyl Ketone	BLCO	11.2	ug/L		BLCO	0.200			20	
Methyl methanesulfonate	BLCO	11.2	ug/L		BLCO	0.200			20	
Methyl parathion	BLCO	2.01	ug/L		BLCO	0.200			20	
Naphthalene	54.3	11.2	ug/L	50.2	BLCO	60.4	40-100	26.8	20	P
Nitrobenzene	54.8	11.2	ug/L	50.2	BLCO	61.8	40-100	26.1	20	P
n-Nitrosodimethylamine	BLCO	2.01	ug/L		BLCO	0.200			20	
n-Nitrosodimethylamine	20.9	11.2	ug/L	50.2	BLCO	27.2	20-110	24.4	20	P
n-Nitrosodi-n-butylamine	BLCO	11.2	ug/L		BLCO	0.200			20	
n-Nitrosodi-n-propylamine	33.9	11.2	ug/L	50.2	BLCO	40.3	10-60	26.1	20	P
n-Nitrosodiphenylamine	32.8	11.2	ug/L	50.2	BLCO	37.6	10-60	26.2	20	P
n-Nitrosomethylpropylamine	BLCO	2.01	ug/L		BLCO	0.200			20	

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: 09-0003 - 090300										
Matrix Spike Dup (09/09/18-09/09/18)										
Source: 181881-01 Filtered: 18072018 Analyzed: 18092018										
n-Nitropropylamine	BL00	11.2	ug/L		BL00		0-200		20	
n-Nitropropylamine	BL00	2.81	ug/L		BL00		0-200		20	
n,n-Dimethyl phosphonotriamide	BL00	11.2	ug/L		BL00		0-200		20	
n,n-Diethyl n-2-cyanoethyl phosphonotriamide	BL00	11.2	ug/L		BL00		0-200		20	
nonylalcohols	BL00	11.2	ug/L		BL00		0-200		20	
n-Propyl	BL00	11.2	ug/L		BL00		80-110		20	
n-Butylamine	BL00	2.81	ug/L		BL00		0-200		20	
p-Dimethylamino azobenzene	BL00	2.81	ug/L		BL00		0-200		20	
p-Fluorobenzene	37.7	11.2	ug/L	98.2	BL00	67.2	10-50	25.1	20	F
Parathionmethyl	BL00	11.2	ug/L		BL00		0-200		20	
Pentafluorobenzene (external)	BL00	1.12	ug/L		BL00		0-200		20	
Permethrin	58.3	22.9	ug/L	98.2	BL00	100	27-100	26.8	20	F
Phenol	BL00	11.2	ug/L		BL00		0-200		20	
Phenylurea	42.1	11.2	ug/L	98.2	BL00	73.0	20-110	21.1	20	F
Phthal	16.8	11.2	ug/L	98.2	BL00	28.1	0-100	28.0	20	F
Phthal	BL00	2.81	ug/L		BL00		0-200		20	
p-Thiophenamine	BL00	11.2	ug/L		BL00		0-200		20	
Propylene	BL00	11.2	ug/L		BL00		0-200		20	
Pyrene	45.8	11.2	ug/L	98.2	BL00	81.1	25-110	28.2	20	F
Salicylic	BL00	2.81	ug/L		BL00		0-200		20	
Sum 2,4,6-Trinitrophenol (Sum)	83.8		ug/L	113		83.8	10-50			
Sum 2-Fluorophenyl (Sum)	37.8		ug/L	98.2		68.8	3-87			
Sum 2-Fluorophenyl (Sum)	37.9		ug/L	112		33.7	10-50			
Sum Minderamere-05 (Sum)	26.8		ug/L	98.2		80.4	10-88.3			
Sum Phthal-05 (Sum)	21.5		ug/L	112		27.8	3-23			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 08-0003 - 000100										
Matrix Spike Dup (08-0010-0101)										
Sum p-Naphthyl+M (Sum)		26.8	ug/L	26.7	26.8	27-133				
Matrix Spike Dup (08-0010-0102)										
Source: 180912-01				Prepared: 10/02/2018 Analyzed: 10/02/2018						
1,2,4,5-Tetrachlorobenzene	BLOD	133	ug/L		BLOD		0-200		20	
1,2,5-Trichlorobenzene	BLOD	66.7	ug/L		BLOD		0-200		20	
1,3-Dichlorobenzene	51.05	25.5	ug/L		BLOD		0-200		20	
1,4-Naphthoquinone	BLOD	133	ug/L		BLOD		0-200		20	
1-Naphthylamine	BLOD	133	ug/L		BLOD		0-200		20	
1,1,4,4-Tetrachlorophenol	BLOD	133	ug/L		BLOD		0-200		20	
2,4,6-Trichlorophenol	BLOD	133	ug/L		BLOD		50-110		20	
2,4,6-Trichlorophenol	365	133	ug/L	667	BLOD	57.6	50-115	0.136	20	
2,4-Dichlorophenol	276	133	ug/L	667	BLOD	56.2	50-105	2.45	20	
2,4-Dimethylphenol	668	6.67	ug/L	667	BLOD	53.8	30-110	4.14	20	
2,4-Dichlorophenol	791	667	ug/L	667	BLOD	113	15-140	6.88	20	
1,4-Dichlorobenzene	416	133	ug/L	667	BLOD	92.4	17-111	2.74	20	
1,4-dichlorophenol	BLOD	133	ug/L		BLOD		0-200		20	
1,5-Dichlorobenzene	425	133	ug/L	667	BLOD	63.4	15-140	6.47	20	
2-Acetylaminofluorene	BLOD	13.3	ug/L		BLOD		0-200		20	
2-Chloronaphthalene	364	133	ug/L	667	BLOD	53.1	45-105	1.02	20	
2-Chlorophenol	299	133	ug/L	667	BLOD	52.2	16-64	0.167	20	
2-Methylnaphthalene	BLOD	133	ug/L		BLOD		45-105		20	
2-Naphthylamine	BLOD	133	ug/L		BLOD		0-200		20	
2-Nitroaniline	BLOD	267	ug/L		BLOD		0-200		20	
2-Nitrophenol	364	133	ug/L	667	BLOD	53.1	40-115	0.564	20	
1,7-Dichloronaphthalene	712	133	ug/L	667	BLOD	107	10-65	4.74	20	14

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike Dup (BBJ0010-MSD2)										
		Source: 1810922-01			Prepared: 10/01/2018		Analyzed: 10/02/2018			
3,3'-Dimethylbenzidine	BLOD	33.3	ug/L		BLOD		0-200		20	
3-Methylcholanthrene	BLOD	133	ug/L		BLOD		0-200		20	
3-Nitroaniline	BLOD	267	ug/L		BLOD		0-200		20	
4,6-Dinitro-2-methylphenol	671	667	ug/L	667	BLOD	104	40-120	7.35	20	
4-Methylchlorophenyl	BLOD	133	ug/L		BLOD		0-200		20	
4-Terphenyl phenyl ether	447	443	ug/L	443	BLOD	67.1	15-115	6.62	20	
4-Chloroaniline	BLOD	133	ug/L		BLOD		15-115		20	
4-Chlorophenyl phenyl ether	249	133	ug/L	443	BLOD	67.8	15-115	6.58	20	
4-Nitroaniline	89.09	897	ug/L		BLOD		0-200		20	
4-Nitrophenol	218	897	ug/L	897	BLOD	32.4	0-120	3.42	20	
5-Nitro-2-hexadecane	BLOD	133	ug/L		BLOD		0-200		20	
7,7-Dimethylpiperidyl (a) anthracene	BLOD	133	ug/L		BLOD		0-200		20	
Anthracene	389	133	ug/L	897	BLOD	58.4	24-80	0.898	20	
Acenaphthylene	414	133	ug/L	897	BLOD	52.1	20-100	0.2967	20	
Acenaphthene	358	267	ug/L	897	BLOD	53.8	0-200	2.09	20	
Anthracene	513	133	ug/L	897	BLOD	77.8	30-110	1.54	20	
Benzo (a) anthracene	505	8.97	ug/L	897	BLOD	88.0	30-110	4.55	20	
Benzo (a) pyrene	811	1.33	ug/L	897	BLOD	91.8	30-110	8.88	20	
Benzo (b) fluoranthene	654	133	ug/L	897	BLOD	93.8	40-120	4.58	20	
Benzo (g,h,i) perylene	531	133	ug/L	897	BLOD	78.7	40-120	7.37	20	
Benzo (k) fluoranthene	894	133	ug/L	897	BLOD	104	40-120	5.81	20	
Benzyl alcohol	BLOD	267	ug/L		BLOD		0-200		20	
Is (2-Chloromethyl) methane	363	133	ug/L	897	BLOD	54.8	40-120	3.18	20	
Is (2-Chloromethyl) ether	347	133	ug/L	897	BLOD	52.1	40-120	0.90	20	
2,2'-Oxybis (1-chloropropane)	313	133	ug/L	897	BLOD	47.0	40-120	3.879	20	

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:38PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%RSD Limits	RPD	RPD Limit	Qual
Batch BBJ0010 - SW3510C										
Matrix Spike Dup (BBJ0010-MSD2)		Source: 1810922-01			Prepared: 10/01/2018 Analyzed: 10/02/2018					
bis (2-Ethylhexyl) phthalate	516	33.3	ug/L	667	BL00	77.8	60-125	5.51	20	
Butyl benzyl phthalate	662	133	ug/L	667	BL00	99.3	60-115	4.45	20	
Chlorobenzilate	BL00	33.3	ug/L	667	BL00		0-200		20	
Chrysene	726	133	ug/L	667	BL00	109	60-110	4.13	20	
Dibale	BL00	33.3	ug/L	667	BL00		0-200		20	
Dibenz (a,h) anthracene	529	133	ug/L	667	BL00	93.8	60-125	5.90	20	
Dibenzofuran	BL00	66.7	ug/L	667	BL00		0-200		20	
Dibutyl phthalate	527	133	ug/L	667	BL00	78.1	40-100	3.791	20	
Dieldrin	BL00	79.3	ug/L	667	BL00		0-200		20	
Dimethyl phthalate	433	133	ug/L	667	BL00	64.8	25-125	4.31	20	
Di-n-butyl phthalate	548	133	ug/L	667	BL00	97.3	55-115	2.33	20	
Dimethyl phthalate	717	133	ug/L	667	BL00	108	30-125	5.21	20	
Dibenzylamine	BL00	133	ug/L	667	BL00		0-200		20	
Dieldrin	BL00	33.3	ug/L	667	BL00		0-200		20	
Ethyl methylphthalate	BL00	267	ug/L	667	BL00		0-200		20	
Ortho-xylene	BL00	33.3	ug/L	667	BL00		0-200		20	
Paraphur	BL00	33.3	ug/L	667	BL00		0-200		20	
Fluoranthene	417	133	ug/L	667	BL00	92.8	55-115	4.43	20	
Fluorene	444	133	ug/L	667	BL00	66.8	50-110	5.58	20	
Hexachlorobenzene	528	6.67	ug/L	667	BL00	78.1	25-125	1.88	20	
Hexachlorobutadiene	327	133	ug/L	667	BL00	49.0	20-125	2.31	20	
Hexachlorocyclopentadiene	187	133	ug/L	667	BL00	28.0	10-90	3.78	20	
Hexachloroethane	268	133	ug/L	667	BL00	38.7	20-125	0.2804	20	
Hexachloropropene	BL00	33.3	ug/L	667	BL00		0-200		20	
Indene (1,2,3-cd) pyrene	381	133	ug/L	667	BL00	98.8	45-125	5.90	20	

Certificate of Analysis

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Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch BBJ0010 - SW3510C

Matrix Spike Dup (BBJ0010-MSD2)	Source: 1810922-01			Prepared: 10/01/2018 Analyzed: 10/02/2018						
Isodrin	BLOD	133	ug/L		BLOD		0-200		20	
Isophorone	365	133	ug/L	667	BLOD	54.8	10-110	1.77	20	
Isosafrole	BLOD	133	ug/L		BLOD		0-200		20	
Kepon	BLOD	33.3	ug/L		BLOD		0-200		20	
m-xyl-Cresols	BLOD	133	ug/L		BLOD		0-200		20	
Isobutyronitrile	BLOD	133	ug/L		BLOD		0-200		20	
Methyl methanesulphonate	BLOD	133	ug/L		BLOD		0-200		20	
Methyl parathion	BLOD	33.3	ug/L		BLOD		0-200		20	
Perchloroethane	599	133	ug/L	667	BLOD	50.4	40-100	3.19	20	
Permethrin	30.3	133	ug/L	667	BLOD	52.8	40-100	2.604	20	
n-Nitrosodibutylamine	BLOD	33.3	ug/L		BLOD		0-200		20	
n-Nitrosodimethylamine	177	133	ug/L	667	BLOD	20.5	20-110	24.7	20	M, P
n-Nitrosodi-n-butylamine	BLOD	133	ug/L		BLOD		0-200		20	
n-Nitrosodi-n-propylamine	343	133	ug/L	667	BLOD	21.0	12-87	2.90	20	
n-Nitrosodiphenylamine	470	133	ug/L	667	BLOD	21.0	12-87	3.54	20	
n-Nitrosomethylpropylamine	BLOD	33.3	ug/L		BLOD		20-110		20	
n-Nitrosopentane	BLOD	133	ug/L		BLOD		0-200		20	
n-Nitrosopyrrolidine	BLOD	33.3	ug/L		BLOD		0-200		20	
n,n-Dimethyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200		20	
n,n-Diethyl o-2-pyridyl phosphorothioate	BLOD	133	ug/L		BLOD		0-200		20	
o-xyl-Cresols	BLOD	133	ug/L		BLOD		0-200		20	
o-Cresol	BLOD	133	ug/L		BLOD		40-110		20	
o-Toluidine	BLOD	33.3	ug/L		BLOD		0-200		20	
p-(Dimethylamino) acetanilide	BLOD	33.3	ug/L		BLOD		0-200		20	
p-Chloro-m-cresol	380	133	ug/L	667	BLOD	58.8	10-91	1.47	20	

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch BBJ0010 - SW3510C

Matrix Spike Dup (BBJ0010-MSD2)

Source: 1810922-01

Prepared: 10/01/2018 Analyzed: 10/02/2018

Pentachlorobenzene	BLOD	133	ug/L		BLOD		0-200		20	
Pentachloronitrobenzene (quintozene)	BLOD	13.3	ug/L		BLOD		0-200		20	
Pentachlorophenol	574	267	ug/L	667	BLOD	88.1	27-109	2.47	20	
Phenacetin	BLOD	133	ug/L		BLOD		0-200		20	
Phenanthrene	542	133	ug/L	667	BLOD	61.3	50-115	1.24	20	
Phenol	159	133	ug/L	673	BLOD	23.7	0-115	4.65	20	
Phorate	BLOD	33.3	ug/L		BLOD		0-200		20	
p-Phenylenediamine	BLOD	133	ug/L		BLOD		0-200		20	
Pronamide	BLOD	133	ug/L		BLOD		0-200		20	
Pyrene	650	133	ug/L	667	BLOD	97.5	23-110	9.05	20	
Safrole	BLOD	33.3	ug/L		BLOD		0-200		20	
Surr: 2,4,6-Tribromophenol (Surr)	1030		ug/L	1330		76.9	10-65			
Surr: 2-Fluorobiphenyl (Surr)	390		ug/L	667		58.5	9-67			
Surr: 3-Fluorophenol (Surr)	303		ug/L	1330		22.8	10-52			
Surr: Nitrobenzene-d5 (Surr)	372		ug/L	667		55.8	10-98.5			
Surr: Phenol-d5 (Surr)	304		ug/L	1330		22.8	5-33			
Surr: p-Terphenyl-d14 (Surr)	695		ug/L	667		104	27-133			

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 05-0082 - 050200										
Blank (05-0082-05-01)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L							
Sum: TCMX	0.149		ug/L	0.200		75.0	18-112			
Sum: DCB	0.160		ug/L	0.200		80.0	27-131			
LCS (05-0082-05-01)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	0.070	0.050	ug/L	0.100		70.0	23-134			
Sum: TCMX	0.110		ug/L	0.200		55.0	18-112			
Sum: DCB	0.150		ug/L	0.200		75.0	27-131			
LCS (05-0082-05-02)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Sum: TCMX	0.150		ug/L	0.200		75.0	18-112			
Sum: DCB	0.150		ug/L	0.200		75.0	27-131			
LCS (05-0082-05-03)										
				Prepared: 10/02/2018 Analyzed: 10/04/2018						
Endosulfan sulfate	BLOD	0.050	ug/L				23-134			
Sum: TCMX	0.130		ug/L	0.200		60.0	18-112			
Sum: DCB	0.160		ug/L	0.200		75.0	27-131			

Certificate of Analysis

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Organism(s) Detected by GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BR-0128 - BWC019C										
Blank (BR-0128-BLANK)						Prepared: 10/03/2018 Analyzed: 10/08/2018				
2,4-D-T	BL00	0.500	ug/L							
Sum OCAS (Sum)	1.08		ug/L	5.00		88.0	80-112			
LC8 (BR-0128-LC8)						Prepared: 10/03/2018 Analyzed: 10/08/2018				
2,4-D-T	0.667	0.500	ug/L	0.500		120	53-144			
Sum OCAS (Sum)	0.844		ug/L	5.00		85.0	60-112			
Matrix Spike (BR-0128-MS1)					Source: BR1801-01	Prepared: 10/03/2018 Analyzed: 10/08/2018				
2,4-D-T	0.555	0.500	ug/L	0.500	BL00	90.0	53-144			
Sum OCAS (Sum)	1.11		ug/L	5.00		100	60-112			
Matrix Spike Dup (BR-0128-MS1a)					Source: BR1801-01	Prepared: 10/03/2018 Analyzed: 10/08/2018				
2,4-D-T	0.598	0.500	ug/L	0.500	BL00	100	53-144	10.5	20	
Sum OCAS (Sum)	0.944		ug/L	5.00		88.0	60-112			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 10/10/2018 4:24:58PM

Monitored/Analyzed by: GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: 08-0008 - 09001										
Blank (08-0008-BLANK) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	BL000	0.010	ug/L							
1,2,3-Trichloropropane	BL000	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL000	0.010	ug/L							
LC8 (08-0008-01) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.503	0.010	ug/L	0.250		121	65-135			
1,2,3-Trichloropropane	0.272	0.010	ug/L	0.250		109	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.277	0.010	ug/L	0.250		111	65-135			
LC8 (up) (08-0008-01) Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.315	0.010	ug/L	0.250		126	65-135	4.02	20	
1,2,3-Trichloropropane	0.276	0.010	ug/L	0.250		110	65-135	1.46	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.282	0.010	ug/L	0.250		113	65-135	1.67	20	
Main Spike (08-0008-M1) Source: 101001-01 Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.260	0.010	ug/L	0.250	BL000	103	65-135			
1,2,3-Trichloropropane	0.260	0.010	ug/L	0.250	BL000	98.2	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.210	0.010	ug/L	0.250	BL000	124	65-135			
Main Spike (up) (08-0008-M1) Source: 101001-01 Prepared & Analyzed: 10/03/2018										
1,2-Dibromochloroethane (DBCE)	0.267	0.010	ug/L	0.261	BL000	102	65-135	0.826	20	
1,2,3-Trichloropropane	0.251	0.010	ug/L	0.261	BL000	98.3	65-135	0.621	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.308	0.010	ug/L	0.261	BL000	118	65-135	3.44	20	

Certificate of Analysis

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Date Issued: 10/10/2018 4:24:58PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch 05-2024 - No Prog Wet Chem										
Blank (05-2024-BLANK) Prepared & Analyzed: 10/01/2018										
Sulfide	BLOD	1.00	mg/L							
LCS (05-2024-001) Prepared & Analyzed: 10/01/2018										
Sulfide	0.05	1	mg/L	0.00		971	80-120			
LCS Dup (05-2024-002) Prepared & Analyzed: 10/01/2018										
Sulfide	0.04	1	mg/L	0.00		971	80-120	0.148	20	
Matrix Spike (05-2024-M01) Source: 101001-01 Prepared & Analyzed: 10/01/2018										
Sulfide	1.10	1.00	mg/L	0.00	BLOD	66.8	75-125			M
Matrix Spike Dup (05-2024-M02) Source: 101001-01 Prepared & Analyzed: 10/01/2018										
Sulfide	1.10	1.00	mg/L	0.00	BLOD	66.0	75-125	0.908	20	M
Batch 05-2181 - No Prog Wet Chem										
Blank (05-2181-BLANK) Prepared & Analyzed: 10/04/2018										
Sulfide	BLOD	1.00	mg/L							
LCS (05-2181-001) Prepared & Analyzed: 10/04/2018										
Sulfide	0.02	1	mg/L	0.00		900	80-120			
LCS Dup (05-2181-002) Prepared & Analyzed: 10/04/2018										
Sulfide	4.78	1	mg/L	0.00		95.6	80-120	4.90	20	
Matrix Spike (05-2181-M01) Source: 101110-01 Prepared & Analyzed: 10/04/2018										
Sulfide	0.14	1.00	mg/L	0.00	BLOD	66.8	75-125			M

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch 88-0101 - No Prog Wet Chem										
Matrix Spike Spg (88-0101-0101)										
		Source: 181118-01		Prepared & Analyzed: 10/04/2018						
Ammonia	2.28	1.00	mg/L	1.00	8.00	69.2	75-125	2.42	20	62

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8220/8210 Series Methods			Preparation Method	EPA/USEPA/SL-8	
181281-01	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-01	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-02	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-02	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-03	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-03	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-04	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-04	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-05	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-05	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8220/8210 Series Methods			Preparation Method	EPA/USEPA/SL-8	
181281-01	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-01	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-02	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-02	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-03	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-03	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-04	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-04	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044
181281-05	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0183	AJ0018
181281-05	50.0 mL / 50.0 mL	8220/8210	8220/8210	SL-0227	AJ0044

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Chemistry Analysis			Preparation Method	No Prep/No Chem	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis			Preparation Method	No Prep Wet Chem	
181081-01	6.00 mL / 18.00 mL	SW6210	SBJ004	SBJ0048	
181081-02	6.00 mL / 18.00 mL	SW6210	SBJ004	SBJ0048	
181081-03	6.00 mL / 18.00 mL	SW6210	SBJ004	SBJ0048	
181081-04	6.00 mL / 18.00 mL	SW6210	SBJ004	SBJ0048	
181081-05	6.00 mL / 18.00 mL	SW6210	SBJ004	SBJ0204	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Nonhalogenated Organic Compounds by GC/MS			Preparation Method	SW3510C	
181081-01	9.00 mL / 1.00 mL	SW6210D	SBJ0010	SBJ0125	AW30000
181081-02	9.00 mL / 1.00 mL	SW6210D	SBJ0010	SBJ0125	AW30000
181081-03	9.00 mL / 1.00 mL	SW6210D	SBJ0010	SBJ0125	AW30000
181081-04	9.00 mL / 1.00 mL	SW6210D	SBJ0010	SBJ0125	AW30000
181081-05	7.00 mL / 1.00 mL	SW6210D	SBJ0010	SBJ0125	AW30000
181081-01	9.00 mL / 1.00 mL	SW6210E	SBJ0002	SBJ0105	AW30000
181081-02	9.00 mL / 1.00 mL	SW6210E	SBJ0002	SBJ0105	AW30000
181081-03	9.00 mL / 1.00 mL	SW6210E	SBJ0002	SBJ0105	AW30000
181081-04	9.00 mL / 1.00 mL	SW6210E	SBJ0002	SBJ0105	AW30000
181081-05	9.00 mL / 1.00 mL	SW6210E	SBJ0002	SBJ0105	AW30000
181081-01	9.00 mL / 1.00 mL	SW6210A	SBJ0100	SBJ0004	AW30000
181081-02	9.00 mL / 1.00 mL	SW6210A	SBJ0100	SBJ0004	AW30000
181081-03	9.00 mL / 1.00 mL	SW6210A	SBJ0100	SBJ0004	AW30000
181081-04	9.00 mL / 1.00 mL	SW6210A	SBJ0100	SBJ0004	AW30000
181081-05	9.00 mL / 1.00 mL	SW6210A	SBJ0100	SBJ0004	AW30000

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Halide Organic Compounds by GC/MS			Preparation Method	SW6210B	
181081-01	6.00 mL / 18.00 mL	SW6210B	SBJ0010	SBJ0007	AW30000

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Organic Compounds by GC/MS			Preparation Method	SW5030B	
181081-01	5.00 mL / 5.00 mL	SW5030B	88J0013	SBJ0007	A180065
181081-02	5.00 mL / 5.00 mL	SW5030B	88J0013	SBJ0007	A180065
181081-04	5.00 mL / 5.00 mL	SW5030B	88J0013	SBJ0007	A180065
181081-05	5.00 mL / 5.00 mL	SW5030B	88J0013	SBJ0007	A180065
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/7000 Series Methods			Preparation Method	SW7470A	
181081-01	20.0 mL / 20.0 mL	SW7470A	88J0217	SBJ0250	A180047
181081-02	20.0 mL / 20.0 mL	SW7470A	88J0217	SBJ0250	A180047
181081-03	20.0 mL / 20.0 mL	SW7470A	88J0217	SBJ0250	A180047
181081-04	20.0 mL / 20.0 mL	SW7470A	88J0217	SBJ0250	A180047
181081-05	20.0 mL / 20.0 mL	SW7470A	88J0217	SBJ0250	A180047
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECG			Preparation Method	SW8011	
181081-01	58.2 mL / 2.00 mL	SW8011	88J0099	SBJ0108	A180088
181081-02	57.5 mL / 2.00 mL	SW8011	88J0099	SBJ0108	A180088
181081-03	58.9 mL / 2.00 mL	SW8011	88J0099	SBJ0108	A180088
181081-04	58.4 mL / 2.00 mL	SW8011	88J0099	SBJ0108	A180088
181081-05	58.1 mL / 2.00 mL	SW8011	88J0099	SBJ0108	A180088

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Certified Analyses included in this Report

Analyte	Certification
EM610C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM630A in Non-Potable Water	
Antimony	VELAPNC.WDEP
Arsenic	VELAPWDEP
Thallium	VELAPWYDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WDEP
EM8211 in Non-Potable Water	
1,2-Dibromoethane (DBE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-3-chloropropane (DBCP)	VELAPNC
EM8218 in Non-Potable Water	
Endosulfan sulfate	NC.VELAPWDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill
 Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Certified Analyses included in this Report

Analyte	Certifications
SWR1014 in Non-Potable Water	
2,4,5-T	VELAP NC
SWR2008 in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC, VELAP WVDLP
1,1,1-Trichloroethane	NC, VELAP WVDLP
1,1,2,2-Tetrachloroethane	NC, VELAP WVDLP
1,1,2-Trichloroethane	NC, VELAP WVDLP
1,1-Dichloroethane	NC, VELAP WVDLP
1,1-Dichloroethylene	NC, VELAP WVDLP
1,2,3-Trichloropropane	NC, VELAP WVDLP
1,2-Dichlorobenzene	NC, VELAP WVDLP
1,3-Dichlorobenzene	NC, VELAP WVDLP
1,2-Dichloropropane	NC, VELAP WVDLP
1,4-Dichlorobenzene	NC, VELAP WVDLP
3-Butanone (MIBK)	NC, VELAP WVDLP
2-Hexanone (MIBK)	NC, VELAP WVDLP
4-Methyl-2-pentanone (MIBK)	NC, VELAP WVDLP
Acetone	NC, VELAP WVDLP
Acrylonitrile	NC, VELAP WVDLP
Benzene	NC, VELAP WVDLP
Bromochloromethane	NC, VELAP WVDLP
Bromodichloromethane	NC, VELAP WVDLP
Bromoflame	NC, VELAP WVDLP
Bromonethane	NC, VELAP WVDLP
Carbon disulfide	NC, VELAP WVDLP
Carbon tetrachloride	NC, VELAP WVDLP
Chlorobenzene	NC, VELAP WVDLP
Chloroethane	NC, VELAP WVDLP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Certified Analyses included in this Report

Analyte	Certification
Chloroform	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Isobutane	NC, VELAP, WYDEP
Isobutyl Alcohol	NC, VELAP, WYDEP
m-xylene	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP
Styrene	NC, VELAP, WYDEP
Tetrachloroethylene (PCE)	NC, VELAP, WYDEP
Toluene	NC, VELAP, WYDEP
trans-1,2-Dichloroethylene	NC, VELAP, WYDEP
trans-1,3-Dichloropropene	NC, VELAP, WYDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WYDEP
Trichloroethylene	NC, VELAP, WYDEP
Trichlorofluoromethane	NC, VELAP, WYDEP
Vinyl acetate	NC, VELAP, WYDEP
Vinyl chloride	NC, VELAP, WYDEP
Xylenes, Total	NC, VELAP, WYDEP
EMPTMS in Non-Portable Water	
4-Aminobiphenyl	NC, VELAP, WYDEP
bis (2-Ethylhexyl) phthalate	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:58PM

Certified Analyses included in this Report

Analyte	Certifications
Dibenz (a,h) anthracene	NC,VELAP,WVDEP
Dialyl phthalate	NC,VELAP,WVDEP
Di-n-butyl phthalate	NC,VELAP,WVDEP
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
EMSD18 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MDDE	Maryland DE Drinking Water	341	12/31/2018
NC	North Carolina DENR	495	12/31/2018
VELAP Certificate #4337	NELAC-Virginia Certificate #9619	460021	06/14/2019
WVDEP	West Virginia DEP	350	11/30/2018

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill
Submitted To: Jake White

Date Issued: 10/10/2018 4:24:38PM

Qualifiers and Definitions

E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLGD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1018, 1021, 1252, 1248, 1254, 1260, 1262, and 1268.



THIS REPORT WAS
REVIEWED, VERIFIED, AND
APPROVED BY THE
REGISTERED PROFESSIONAL

CHAIN OF CUSTODY

COMPANY NAME: Green Engineering, Inc. PROJECT NAME: Quinta F - Chapter One Compliance
 CONTACT: Mike Smith PROJECT NUMBER: 1501001010
 ADDRESS: 1000 County Lane, Suite 100, St. Louis, MO 63103
 PHONE: 314-433-8888 FAX: 314-433-8888
 ANALYST: John J. Johnson PROJECT PROGRAM: As
 No. samples for compliance reporting: 153 NO. 153 NO. 153
 SAMPLES MADE FROM: 153 SAMPLES SUBMITTED: 153
 No. samples from a particular report: 153 NO. 153 NO. 153
 FROM REPORT DATE: (if Day(s)) COMPLIANCE

ID	DATE	TIME	LOCATION	DEPTH	METHOD	ANALYSIS	ANALYSIS		LABORATORY	ANALYST	REMARKS
							DATE	TIME			
1	08/19/2010	08:00	Quinta F - Chapter One Compliance	0.5	Hand	Asbestos	Asbestos	Asbestos	Green Engineering, Inc.	John J. Johnson	Asbestos
2	08/19/2010	08:00	Quinta F - Chapter One Compliance	0.5	Hand	Asbestos	Asbestos	Asbestos	Green Engineering, Inc.	John J. Johnson	Asbestos
3	08/19/2010	08:00	Quinta F - Chapter One Compliance	0.5	Hand	Asbestos	Asbestos	Asbestos	Green Engineering, Inc.	John J. Johnson	Asbestos
4	08/19/2010	08:00	Quinta F - Chapter One Compliance	0.5	Hand	Asbestos	Asbestos	Asbestos	Green Engineering, Inc.	John J. Johnson	Asbestos
5	08/19/2010	08:00	Quinta F - Chapter One Compliance	0.5	Hand	Asbestos	Asbestos	Asbestos	Green Engineering, Inc.	John J. Johnson	Asbestos

I hereby certify that the above information is true and correct to the best of my knowledge and belief.
 Signature: John J. Johnson Date: 08/19/2010
 Title: Project Manager
 Company: Green Engineering, Inc.
 License No.: 153



Form 10 (12/18) SCALE

Sample Preservation Log

Date Received: 10/14/18

Field Number: 18-01
Project: 18-01
Site: 18-01

Field Processing Date: 10/14/18

Sample ID	DATE RECEIVED	DATE PROCESSED	TIME	TEMPERATURE (°C)	TEMPERATURE (°F)	PH	CONDUC TIVITY (µS/cm)	TOTAL SOLIDS (mg/L)	PHOSPHATE (mg/L)	AMMONIA (mg/L)	AMMONIUM (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	CO2 (mg/L)	DO (mg/L)	DO (%)
01	A	/														
02	F	/														
03	S	/														
04	L	/														
05	J	/														
06	M	/														
07	T	/														
08	A	/														
09	F	/														
10	C	/														
11	A	/														
12	F	/														
13	G	/														
14	H	/														
15	I	/														
16	J	/														
17	K	/														
18	L	/														
19	M	/														
20	N	/														
21	O	/														
22	P	/														
23	Q	/														
24	R	/														
25	S	/														
26	T	/														

Date: _____ Time: _____
 Location: _____
 Collector: _____
 Processor: _____
 Instrument: _____
 Method: _____
 Reference: _____
 Notes: _____



Form # 101-1011

Sample Preservation Log

Date/Location 10/10/14

Unit/Preservation
 No. 2102
 Unit # 1011
 Address 1011
 City 1011

Event Reporting Code 02

Sample ID	Sample Description	Quantity	Unit	Material	Time	Date	Location	Preservation Method	Notes	Time	Signature
01											
02											
03											
04											
05											
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Date 10/10/14 Page 1 of 1
 Unit 2102 Location 1011 Material 1011 Time 1011
 Date 10/10/14 Location 1011 Material 1011 Time 1011
 Date 10/10/14 Location 1011 Material 1011 Time 1011
 Date 10/10/14 Location 1011 Material 1011 Time 1011

Not for use in the field. Use only in the laboratory.
 NFPA Form 101-1011 (Rev. 10/10/14)

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill**
 Submitted To: **Jake White**

Date Issued: **10/10/2018 4:24:58PM**

Sample Conditions Checklist

Sample Received at	L.V.P.
Has any sample been?	YES/Checked
Were cooling/freezers used? If so, were they verified used?	No
Are the correct preservation techniques used?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature/level of refrigeration/cooling appropriate? (above freezing for VOC or verified on ice and recently later?)	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? (VOC sample sets include EPA8011, EPA804, EPA806, EPA804, EPA815 GR0, EPA8021, EPA804, and R04-175)	Yes
Are all samples received appropriately preserved? (Note that metals containers do not require field preservation but lab preservation may delay analysis)	Yes

Work Order Comments

For trip blank data, see work order 181076, DWS 10/1/18 1343

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Laboratory Sample ID: 1909191-01

Client Sample ID: MW-08

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2300B-2014	20.0		5.0	5.0	1	mg/L
Chloride	01	EPH200.0 RL.1	1.9		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.344		0.110	0.150	1	mg/L
Nitrate-Nitrite as N	01	SM22 4500-NO3-NO2-2005	0.34		0.10	0.10	1	mg/L

Laboratory Sample ID: 1909191-02

Client Sample ID: MW-5

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	02	SW610C	98.2		2.0	4.0	1	ug/L
1,3-Dichlorobenzene	02	SW610B	0.40	J	0.40	1.00	1	ug/L
1,4-Dioxinbenzene	02	SW610B	10.8		0.40	1.00	1	ug/L
Acetone	02	SW610B	47.1		7.00	10.0	1	ug/L
Benzene	02	SW610B	1.79		0.40	1.00	1	ug/L
Chlorobenzene	02	SW610B	4.80		0.40	1.00	1	ug/L
cis-1,3-Dichloroethylene	02	SW610B	3.12		0.40	1.00	1	ug/L

Laboratory Sample ID: 1909191-03

Client Sample ID: MW-11

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	03	SW610C	137		2.0	4.0	1	ug/L
1,4-Dioxinbenzene	03	SW610B	0.99	J	0.40	1.00	1	ug/L
Acetone	03	SW610B	19.7		7.00	10.0	1	ug/L
Benzene	03	SW610B	0.68	J	0.40	1.00	1	ug/L
Chlorobenzene	03	SW610B	4.08		0.40	1.00	1	ug/L
Chloroethane	03	SW610B	0.80	J	0.70	1.00	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-04 Client Sample ID: CLF-1

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	04	SM9219C	98.2		2.0	4.0	1	ug/L
1,1-Dichloroethene	04	SW8260B	1.02		0.40	1.00	1	ug/L
1,2-Dichloroethene	04	SW8260B	4.82		0.40	1.00	1	ug/L
Benzene	04	SW8260B	1.15		0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260B	4.15		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	2.77		0.40	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.65	J	0.40	1.00	1	ug/L

Laboratory Sample ID: 1908181-05 Client Sample ID: WFN-3

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	05	SM9219C	4.6		2.0	4.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1909161-07 Client Sample ID: MW-1C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Colist	07	SW6210C	36.5		2.0	4.0	1	ug/L
1,1-Dichloroethane	07	SW8200B	16.6		0.40	1.00	1	ug/L
1,2-Dichloroethane	07	SW8200B	1.04		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW8200B	4.82		0.40	1.00	1	ug/L
Benzene	07	SW8200B	1.12		0.40	1.00	1	ug/L
Chlorobenzene	07	SW8200B	1.88		0.40	1.00	1	ug/L
Chloroethane	07	SW8200B	3.31		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8200B	21.6		0.40	1.00	1	ug/L
trans-1,2-Dichloroethylene	07	SW8200B	0.70	J	0.65	1.00	1	ug/L
Trichloroethylene	07	SW8200B	1.21		0.40	1.00	1	ug/L
Vinyl chloride	07	SW8200B	4.82		0.50	0.50	1	ug/L

Laboratory Sample ID: 1909161-08 Client Sample ID: MW-1D

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Colist	08	SW6210C	17.2		2.0	4.0	1	ug/L
1,1-Dichloroethane	08	SW8200B	0.71	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8200B	3.62		0.40	1.00	1	ug/L
Benzene	08	SW8200B	0.57	J	0.40	1.00	1	ug/L
Chlorobenzene	08	SW8200B	1.31		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8200B	8.94		0.40	1.00	1	ug/L
Vinyl chloride	08	SW8200B	2.17		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808191-09 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	09	SW8260B	3.08		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	09	SW8260B	4.31		0.40	1.00	1	ug/L
Benzene	09	SW8260B	1.49		0.40	1.00	1	ug/L
Chlorobenzene	09	SW8260B	1.41		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	09	SW8260B	32.0		0.40	1.00	1	ug/L
Trichloroethylene	09	SW8260B	3.68		0.40	1.00	1	ug/L
Vinyl chloride	09	SW8260B	4.88		0.50	0.50	1	ug/L

Laboratory Sample ID: 1808191-10 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	10	SW8260B	1.95		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	10	SW8260B	0.55	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	10	SW8260B	13.2		0.40	1.00	1	ug/L
Trichloroethylene	10	SW8260B	1.48		0.40	1.00	1	ug/L
Vinyl chloride	10	SW8260B	0.55		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908101-11 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	11	SW8260B	4.39		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260B	1.45		0.40	1.00	1	ug/L
Benzene	11	SW8260B	1.01		0.40	1.00	1	ug/L
Chlorobenzene	11	SW8260B	0.54	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260B	19.4		0.40	1.00	1	ug/L
Trichloroethylene	11	SW8260B	2.74		0.40	1.00	1	ug/L
Vinyl chloride	11	SW8260B	3.54		0.50	0.50	1	ug/L

Laboratory Sample ID: 1908101-12 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	12	SW8260B	2.88		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260B	0.73	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260B	15.4		0.40	1.00	1	ug/L
Trichloroethylene	12	SW8260B	2.45		0.40	1.00	1	ug/L

Laboratory Sample ID: 1908101-14 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,4-Dichlorobenzene	14	SW8260B	5.72	J	0.40	1.00	1	ug/L
Benzene	14	SW8260B	1.43		0.40	1.00	1	ug/L
Chlorobenzene	14	SW8260B	5.39		0.40	1.00	1	ug/L
Methane	14P&T	PO&T/PM	2200		14.0	25.0	1	ug/L
Ammonia	14	SM21.2006-2011	212		3.0	5.0	1	mg/L
Chloride	14	SP4200.0 R2.1	16.0		0.5	1.0	1	mg/L
Sulfate	14	SP4200.0 R2.1	7.4		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808181-18 Client Sample ID: CLF-11A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	18	SW8260B	4.44		0.60	1.00	1	ug/L
cis-1,2-Dichloroethylene	18	SW8260B	14.3		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	6.19		0.40	1.00	1	ug/L
Methane	18	MSL17M	443		2.9	5.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	136		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	98.3		0.5	1.0	1	mg/L
Sulfate	18	EPA800.0-R2-1	81.4		0.5	1.0	1	mg/L

Laboratory Sample ID: 1808181-18 Client Sample ID: PZ-4C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	18	SW1717A	3.73		0.30	0.30	1	ug/L
cis-1,2-Dichloroethane	18	SW8260B	1.08		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	0.08	J	0.40	1.00	1	ug/L
Vinyl chloride	18	SW8260B	0.87		0.50	0.50	1	ug/L
Methane	18	MSL17M	3580		14.5	35.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	26.0		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	1.5		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-17

Client Sample ID: CLF-83

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DR Factor	Units
1,1-Dichloroethane	17	EPA8260B	0.64	J	0.60	1.00	1	ug/L
Ammonia	17	SM21-2008-09M	92.0		8.0	8.0	1	mg/L
Chloride	17	EPA800.0 R2.1	4.3		0.0	1.0	1	mg/L
Nitrate as N	17	Calc.	0.291		0.10	0.10	1	mg/L
Nitrate-Nitrite as N	17	SM22-4500-NO3-NO2-09M	0.23		0.10	0.10	1	mg/L
Sulfate	17	EPA800.0 R2.1	51.8		8.0	1.0	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID 1900161

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 3, 2019 13:52
Date Issued: April 16, 2019 17:01
Project Number: 2181900.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/03/2019 13:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mishra
Lab Director/Quality Assurance Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	19D0161-01	Ground Water	04/03/2019 07:55	04/03/2019 13:52
MW-6	19D0161-02	Ground Water	04/02/2019 09:40	04/03/2019 13:52
MW-X1	19D0161-03	Ground Water	04/02/2019 09:20	04/03/2019 13:52
CLF-1	19D0161-04	Ground Water	04/02/2019 10:05	04/03/2019 13:52
MW-3	19D0161-05	Ground Water	04/02/2019 10:20	04/03/2019 13:52
MW-5	19D0161-06	Ground Water	04/02/2019 09:00	04/03/2019 13:52
MW-10	19D0161-07	Ground Water	04/02/2019 08:35	04/03/2019 13:52
MW-10	19D0161-08	Ground Water	04/02/2019 10:25	04/03/2019 13:52
MW-12	19D0161-09	Ground Water	04/02/2019 10:30	04/03/2019 13:52
MW-17	19D0161-10	Ground Water	04/02/2019 07:25	04/03/2019 13:52
MW-10	19D0161-11	Ground Water	04/02/2019 10:40	04/03/2019 13:52
MW-14	19D0161-12	Ground Water	04/02/2019 07:35	04/03/2019 13:52
MW-11	19D0161-13	Ground Water	04/02/2019 07:40	04/03/2019 13:52
MW-12	19D0161-14	Ground Water	04/02/2019 09:00	04/03/2019 13:52
CLF-15A	19D0161-15	Ground Water	04/02/2019 08:40	04/03/2019 13:52
FZ-4E	19D0161-16	Ground Water	04/02/2019 08:00	04/03/2019 13:52
CLF-5D	19D0161-17	Ground Water	04/02/2019 08:20	04/03/2019 13:52
MW-X2D	19D0161-18	Ground Water	04/02/2019 08:15	04/03/2019 13:52
CLF-8T	19D0161-19	Ground Water	04/02/2019 08:30	04/03/2019 13:52

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909181-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-6	85817PM	04/15/2019 10:18	04/15/2019 10:17	BLOD		0.0	0.0	1	mg/L	PHM
Sum Analytes (Sum)	01	113 %	75-130	04/15/2019 10:17	04/15/2019 10:17							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 23008-001	04/15/2019 13:05	04/15/2019 13:10	20.0		0.0	0.0	1	mg/L	TMB
Chloride	01	10387-00-8	819100.0 R2.1	04/08/2019 16:20	04/08/2019 16:20	1.9		0.5	1.0	1	mg/L	BG
Nitrate as N	01	14797-85-8	Calc	04/11/2019 14:28	04/11/2019 14:27	0.344		0.110	0.150	1	mg/L	PHM
Nitrate/Nitrite as N	01	NA	SM22 41004403F- 2011	04/11/2019 14:28	04/11/2019 14:27	0.34		0.10	0.10	1	mg/L	RLM
Nitrite as N	01	14797-85-0	SM22 41004403F- 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	01	14808-79-8	819100.0 R2.1	04/08/2019 16:20	04/08/2019 16:20	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	01	13336-21-8	8191218	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 190919-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	02	7440-50-9	SW8010C	04/04/2019 17:00	04/05/2019 16:33	BLD		2.0	4.0	1	ug/L	SKL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-8	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethane	02	71-98-8	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	02	75-34-6	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	02	75-05-5	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	75-34-3	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1-Dichloroethylene	02	75-35-4	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	96-18-4	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	95-50-1	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	107-06-2	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dichloropropane	02	78-87-6	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	02	106-46-7	SW8200B	04/05/2019 12:08	04/05/2019 12:08	10.8		0.40	1.00	1	ug/L	KCB
2,2,4,4-Tetrachloro (MBC)	02	76-01-3	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	5.00	1	ug/L	KCB
1-Halopropane (MBC)	02	894-78-8	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		2.00	8.00	1	ug/L	KCB
4-Methyl-1-pentane (MBC)	02	109-10-1	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.80	8.00	1	ug/L	KCB
Acetone	02	67-64-1	SW8200B	04/05/2019 12:08	04/05/2019 12:08	47.1		7.00	10.0	1	ug/L	KCB
Acrylonitrile	02	107-13-1	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.70	8.00	1	ug/L	KCB
Benzene	02	71-43-2	SW8200B	04/05/2019 12:08	04/05/2019 12:08	1.75		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-5	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	02	75-27-4	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	02	75-25-2	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
Bromomethane	02	74-83-9	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
Carbon disulfide	02	75-15-0	SW8200B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	10.0	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809161-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	54-29-5	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
Chlorobenzene	02	108-90-7	SW82000	04/08/2019 12:08	04/08/2019 12:08	4.80		0.40	1.00	1	ug/L	RC9
Chloroethane	02	75-00-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.75	1.00	1	ug/L	RC9
Chloroform	02	67-68-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	RC9
Chloroethene	02	74-87-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
cis-1,2-Dichloroethylene	02	156-54-2	SW82000	04/08/2019 12:08	04/08/2019 12:08	1.12		0.40	1.00	1	ug/L	RC9
cis-1,2-Dichloropropene	02	10021-91-0	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
Dibromochloromethane	02	129-48-1	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.25	0.50	1	ug/L	RC9
Dibromomethane	02	74-93-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Dichlorodifluoromethane	02	75-71-8	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.35	1.00	1	ug/L	RC9
Ethylbenzene	02	100-41-4	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Hexamethane	02	74-82-4	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		1.70	10.0	1	ug/L	RC9
m,p-Xylenes	02	119601-26	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	2.00	1	ug/L	RC9
1												
Methylene chloride	02	75-09-2	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	4.00	1	ug/L	RC9
Heptachlorene	02	81-20-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
n-Heptane	02	95-47-6	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Styrene	02	100-42-5	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Tetrachloroethylene (PCE)	02	127-18-4	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Toluene	02	108-88-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
trans-1,2-Dichloroethylene	02	106-66-3	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.60	1.00	1	ug/L	RC9
trans-1,2-Dichloropropene	02	10021-02-8	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
trans-1,4-Dichloro-2-butene	02	110-67-8	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	4.00	1	ug/L	RC9
Trichloroethylene	02	79-01-6	SW82000	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909181-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Toluene/Benzene	02	75-65-4	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	8460000	04/08/2019 12:08	04/08/2019 12:08	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	KCS
Ethene, Total	02	1330-20-1	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	0.00	1	ug/L	KCS
Sum: 1,4-Dichlorobenzene (Sum)	02	79-12-6	79-120	04/08/2019 12:08	04/08/2019 12:08							
Sum: 4-Bromobenzonitrile (Sum)	02	95-13-0	79-120	04/08/2019 12:08	04/08/2019 12:08							
Sum: Dichlorobenzonitrile (Sum)	02	94-3-6	79-120	04/08/2019 12:08	04/08/2019 12:08							
Sum: Triclorobenzene (Sum)	02	95-13-0	79-120	04/08/2019 12:08	04/08/2019 12:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-21

Laboratory Sample ID: 1809181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cadmium	03	7440-48-4	8000/9000	04/04/2019 17:30	04/05/2019 15:40	137		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	630-20-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	79-34-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	79-34-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	95-18-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	107-06-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropene	00	78-87-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	00	106-46-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.59	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	00	78-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		3.00	5.00	1	ug/L	KCS
2-Propanone (MIBK)	00	99-179-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	00	106-10-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.50	5.00	1	ug/L	KCS
Axetone	00	67-66-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	16.7		7.00	10.0	1	ug/L	KCS
Arylonitrile	00	107-13-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	00	71-43-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.68	J	0.40	1.00	1	ug/L	KCS
Bromochloroethane	00	74-87-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	00	79-27-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluorane	00	79-23-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Bromocyclohexane	00	74-83-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	00	75-15-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	00	54-22-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	00	108-90-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	4.88		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-21**

Laboratory Sample ID: **1909161-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD	J	0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	0.80	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	01	156-60-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10001-07-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	13466-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.85	1.00	1	ug/L	KCS
Difluoroethane	01	103-41-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Dibromethane	01	74-94-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	01	178601-05	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	01	75-09-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		3.00	4.00	1	ug/L	KCS
Perchloroethane	01	61-26-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
p-Fluoro	01	85-47-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10001-03-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-67-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.80	8.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	79-09-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-21

Laboratory Sample ID: 1909161-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	01	75-01-4	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		0.50	0.50	1	ug/L	KCS
Ethene, Total	02	1330-20-7	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		1.00	0.50	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d1 (Sum)	03	79-12-4	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: 4-Dibromofluorobenzene (Sum)	01	96-9-8	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: Dibromofluorobenzene (Sum)	02	107-86-2	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: Toluene-d8 (Sum)	03	96-11-8	79-120	04/08/2019 12:52	04/08/2019 12:52							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	04	7440-48-4	8260-100	04/04/2019 17:30	04/05/2019 15:40	19.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	630-20-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-68-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	79-34-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-70-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	88-19-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	85-53-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	107-06-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-48-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.80		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	04	78-92-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	04	99-10-9	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	106-16-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.50	5.00	1	ug/L	KCS
Acetone	04	63-08-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	04	107-13-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.70	3.00	1	ug/L	KCS
Benzene	04	71-43-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.10		0.30	1.00	1	ug/L	KCS
Bromochloromethane	04	74-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	04	75-23-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	58-23-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.10		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1809161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-05-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	04	156-59-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	3.77		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	04	13466-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-93-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.95	1.00	1	ug/L	KCS
Diethylamine	04	103-41-4	SW82000	04/05/2019 13:14	04/05/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Ethylbenzene	04	74-98-4	SW82000	04/08/2019 13:14	04/05/2019 13:14	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	04	17860-25-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW82000	04/08/2019 13:14	04/05/2019 13:14	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
n-Butane	04	64-67-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Benzene	04	100-82-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-67-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		1.80	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	0.85	J	0.40	1.00	1	ug/L	KCS
Tetrachloromethane	04	75-69-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	8265000	04082019 13:14	04082019 13:14	BLDD		0.50	0.50	1	ug/L	KCS
Ethene, Total	04	1336-20-7	8265000	04082019 13:14	04082019 13:14	BLDD		1.00	1.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d (Sum)	04	107 %	70-120	04082019 13:14	04082019 13:14							
Sum: 4-Dimethylaminopyrene (Sum)	04	66.3 %	70-120	04082019 13:14	04082019 13:14							
Sum: Ethene-dibromochloroethene (Sum)	04	88.8 %	70-120	04082019 13:14	04082019 13:14							
Sum: Toluene-d0 (Sum)	04	101 %	70-120	04082019 13:14	04082019 13:14							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1809181-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	03	7440-48-4	8000/7000	04/04/2019 17:30	04/05/2019 15:52	4.8		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909191-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-68-8	SW82000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	78-34-3	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	78-36-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	95-18-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	107-06-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	78-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	75-56-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.00	0.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	531-78-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		2.20	0.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	05	109-10-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	0.00	1	ug/L	KCS
Acetone	05	67-64-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		7.50	0.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	0.00	1	ug/L	KCS
Benzene	05	71-43-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	05	74-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloroethane	05	75-27-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.80	1	ug/L	KCS
Bromofluorane	05	79-25-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-18-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	0.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909181-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-03-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10001-01-0	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-49-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-27	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	08	156-65-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10001-03-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-88-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1909181-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	05	1330-20-7	SW8260B	04082019 13:37	04082019 13:37	BLDD		1.00	3.00	1	ug/L	MS
Sum: 1,2-Dichloroethane (Sum)	05	107-06-6	70-130	04082019 13:37	04082019 13:37							
Sum: 1,1-Dichloroethene (Sum)	05	75-35-4	70-130	04082019 13:37	04082019 13:37							
Sum: Ethenechloroethene (Sum)	05	106-98-9	70-130	04082019 13:37	04082019 13:37							
Sum: Toluene (Sum)	05	108-88-3	70-130	04082019 13:37	04082019 13:37							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1909161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	08	75005-08-0	8260/1631	04/04/2019 17:30	04/05/2019 16:54	BLDG		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **190919-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethane	08	71-68-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	08	79-00-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	08	79-34-3	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	08	79-38-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCB
1,2-Dichloroethane	08	95-18-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	08	95-50-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
1,3-Dichlorobenzene	08	107-06-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCB
1,3-Dichloropropane	08	78-87-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	08	106-46-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
2-Butanone (MIBK)	08	79-59-5	SW82009	04/08/2019 13:59	04/08/2019 13:59	BL00		0.00	0.00	1	ug/L	KCB
2-Pentanone (MIBK)	08	534-78-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		2.20	0.00	1	ug/L	KCB
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	0.00	1	ug/L	KCB
Acetone	08	67-66-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		7.50	10.0	1	ug/L	KCB
Acrylonitrile	08	107-13-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	0.00	1	ug/L	KCB
Benzene	08	71-43-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
Bromochloromethane	08	74-97-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCB
Bromodichloromethane	08	75-27-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.80	1	ug/L	KCB
Bromofluoromethane	08	79-25-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	08	74-83-9	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCB
Carbon disulfide	08	75-18-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	10.0	1	ug/L	KCB
Carbon tetrachloride	08	56-23-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCB
Chlorobenzene	08	108-90-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **1909191-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10001-01-0	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-48-1	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-37-1	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	08	127-18-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	08	156-65-1	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10001-02-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	71-68-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-5

Laboratory Sample ID: 1809161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1517-25-1	SW8260B	04/08/2019 13:59	04/08/2019 13:59	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: 1,1-Dichloroethane (Sum)	08	99.9 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: Ethylchloroformate (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: Toluene (Sum)	08	94.8 %	75-130	04/08/2019 13:59	04/08/2019 13:59							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	07	7440-48-4	8260-100	04/04/2019 17:30	04/05/2019 15:56	36.5		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809181-07**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	630-20-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethene	07	71-68-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.60	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	07	79-34-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	07	79-00-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	07	79-34-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	07	71-35-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,2-Dichloropropane	07	88-78-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	07	85-53-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,3-Dichlorobenzene	07	107-06-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,3-Dichloropropene	07	78-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.04		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	07	106-46-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	4.82		0.40	1.00	1	ug/L	KCB
2-Methoxy (MIX)	07	78-27-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	3.00	1	ug/L	KCB
2-Propanone (MIX)	07	69-17-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		2.20	3.00	1	ug/L	KCB
4-Methyl-2-pentanone (MIBK)	07	106-10-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	3.00	1	ug/L	KCB
Acetone	07	67-64-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		7.50	10.0	1	ug/L	KCB
Arylene	07	107-13-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	3.00	1	ug/L	KCB
Benzene	07	71-42-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.11		0.40	1.00	1	ug/L	KCB
Bromochloromethane	07	74-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Bromodichloromethane	07	75-27-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	07	75-25-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	07	74-83-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Carbon disulfide	07	75-15-0	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	10.0	1	ug/L	KCB
Carbon tetrachloride	07	56-23-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Chlorobenzene	07	108-90-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.89		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809181-07**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	3.91		0.70	1.00	1	ug/L	RC6
Chloroform	07	67-66-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	0.80	1	ug/L	RC6
Chloromethane	07	74-87-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	RC6
cis-1,3-Dichloroethylene	07	156-69-2	SW82600	04/08/2019 14:21	04/08/2019 14:21	31.8		0.40	1.00	1	ug/L	RC6
cis-1,3-Dichloropropene	07	1007-1-4-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	RC6
Dibromochloromethane	07	13466-1	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.50	0.50	1	ug/L	RC6
Dibromomethane	07	74-90-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	RC6
Dichlorodifluoromethane	07	79-71-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	RC6
Ethylbenzene	07	100-41-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	RC6
Isobutane	07	74-98-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	10.0	1	ug/L	RC6
m,p-Xylenes	07	119601-25	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	2.00	1	ug/L	RC6
Methylcyclohexane	07	75-04-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	4.00	1	ug/L	RC6
o-Xylene	07	95-47-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	RC6
Octane	07	100-82-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	RC6
Trichloroethylene (PCE)	07	127-18-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	RC6
Toluene	07	108-88-2	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	RC6
trans-1,3-Dichloroethylene	07	156-60-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	0.70	J	0.80	1.00	1	ug/L	RC6
trans-1,3-Dichloropropene	07	10071-02-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	RC6
trans-1,4-Dichloro-2-butene	07	110-67-6	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		1.00	4.00	1	ug/L	RC6
Trichloroethylene	07	79-01-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	1.21		0.40	1.00	1	ug/L	RC6
Trichlorofluoromethane	07	75-89-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	RC6
Vinyl acetate	07	108-05-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	10.0	1	ug/L	RC6
Vinyl chloride	07	75-01-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	4.82		0.50	0.50	1	ug/L	RC6

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909161-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	07	1330-20-7	SM5000	04/09/2019 14:21	04/09/2019 14:21	BL00		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	07	104	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: 1,1-Dichloroethane (Sum)	07	87-2	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: Ethylchloride (Sum)	07	107	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: Toluene (Sum)	07	98-8	%	75-130	04/09/2019 14:21	04/09/2019 14:21						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	08	7440-48-4	8000-100	04/04/2019 17:30	04/05/2019 16:58	17.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-55-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	79-34-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.71	J	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	08	96-19-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	85-53-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	107-06-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	79-87-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	3.82		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	78-92-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	99-10-9	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	106-10-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	08	107-13-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	3.00	1	ug/L	KCS
Benzene	08	71-43-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.07	J	0.30	1.00	1	ug/L	KCS
Bromochloromethane	08	74-87-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	08	79-27-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	08	79-23-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	08	74-83-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	1.31		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809161-08**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	08	156-59-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10021-04-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	08	13468-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	08	74-93-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Hexachloroethane	08	74-88-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	08	178201-25	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10021-03-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	2.37		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1333-20-1	SW826008	04/08/2019 14:44	04/08/2019 14:44	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	08	107 %	75-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: 1,1-Dichloroethane (Sum)	08	88.4 %	75-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: Ethoxyethoxyethane (Sum)	08	101 %	75-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: Toluene (Sum)	08	95.0 %	75-130	04/08/2019 14:44	04/08/2019 14:44							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1909181-09

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	09	75004-04-0	8060100	04/04/2019 17:30	04/05/2019 16:01	BL00		2.0	4.0	1	ug/L	SNL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1809181-09**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	09	630-20-8	SW82009	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	09	71-68-8	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	09	79-34-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW82005	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	79-34-2	SW82006	04/08/2019 15:00	04/08/2019 15:00	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW82003	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	80-10-4	SW82002	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	85-53-1	SW82004	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	107-06-2	SW82007	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	09	79-87-5	SW82001	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW82000	04/08/2019 15:00	04/08/2019 15:00	4.31		0.40	1.00	1	ug/L	KCS
2-Heptanone (MIX)	09	78-59-2	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		2.00	5.00	1	ug/L	KCS
2-Heptanone (MIX)	09	99-19-9	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	09	109-10-1	SW82005	04/08/2019 15:00	04/08/2019 15:00	BL00		1.50	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW82003	04/08/2019 15:00	04/08/2019 15:00	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	09	107-13-1	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		1.70	3.00	1	ug/L	KCS
Benzene	09	71-43-2	SW82003	04/08/2019 15:00	04/08/2019 15:00	1.48		0.50	1.00	1	ug/L	KCS
Bromochloroethane	09	74-87-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	09	75-27-4	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.50	1	ug/L	KCS
Bromofluorane	09	79-23-2	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethene	09	74-87-6	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	09	58-23-5	SW82003	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	09	108-90-7	SW82003	04/08/2019 15:00	04/08/2019 15:00	1.41		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1909161-09**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-05-3	SW82009	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW82008	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	09	156-59-2	SW82005	04/08/2019 15:00	04/08/2019 15:00	ND		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10021-04-8	SW82006	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
Dibromodichloroethane	09	13466-1	SW82003	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	09	74-93-3	SW82002	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW82004	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW82007	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Hexachlorocyclopentadiene	09	74-88-4	SW82001	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	09	17862-01-0	SW82008	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	09	75-09-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-8	SW82002	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	09	100-42-3	SW82003	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW82009	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	09	108-88-2	SW82006	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-3	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10021-03-8	SW82006	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-87-8	SW82003	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	09	79-07-6	SW82008	04/08/2019 15:00	04/08/2019 15:00	3.68		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	79-09-4	SW82009	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW82008	04/08/2019 15:00	04/08/2019 15:00	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW82008	04/08/2019 15:00	04/08/2019 15:00	0.88		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1806181-09

Parameter	Entry ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Nyenes, Total	09	1122-20-7	SW82609	04/08/2019 15:08	04/08/2019 15:08	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	09	100 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: 1,1-Dichloroethane-04 (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: Ethylchloride-04 (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: Toluene-04 (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	18	75005-6	8000-700	04/04/2019 17:30	04/05/2019 16:03	BLD		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	10	630-20-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-68-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	10	79-34-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
1,4-Dichloroethane	10	78-24-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	10	80-18-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	85-53-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	10	107-08-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	78-87-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-48-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	0.58	J	0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	10	78-50-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	10	99-10-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	109-10-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.50	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	10	107-13-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	10	78-25-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	10	74-83-6	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	58-23-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	10	108-90-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **190919-18**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-05-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	10	156-59-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	FLJ		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10001-04-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	10	13466-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	10	74-93-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	10	74-88-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	10	17800-25-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	10	75-09-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	10	95-47-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	10	100-42-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	10	108-88-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10001-03-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	156-67-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	10	79-07-6	SW82000	04/08/2019 15:28	04/08/2019 15:28	LAB		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	72-69-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	10	75-01-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	10	1330-20-7	SW826008	04/08/2019 15:28	04/08/2019 15:28	BLDD		1.00	3.60	1	ug/L	WCS
Sum: 1,3-Dichlorobenzene-d4 (Sum)	10	67-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 4-Bromochlorobenzene (Sum)	10	95-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 2-Bromochlorobenzene (Sum)	10	95-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: Toluene-d8 (Sum)	10	97-53-6	70-130	04/08/2019 15:28	04/08/2019 15:28							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	11	75930-64-4	8260/1631	04/04/2019 17:30	04/05/2019 16:08	BLDD		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **190919-11**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	11	630-20-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	11	71-55-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	11	79-34-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Difluoroethane	11	79-20-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	11	79-34-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	4.38		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	11	75-35-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	11	88-19-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	11	85-53-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	11	107-06-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	11	79-34-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	11	106-46-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.48		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	11	78-29-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
2-Hexanone (MIBK)	11	98-17-9	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	11	106-10-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	5.00	1	ug/L	KCS
Acetone	11	67-64-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		7.50	10.0	1	ug/L	KCS
Arylene	11	107-13-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.70	3.00	1	ug/L	KCS
Benzene	11	71-43-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.01		0.50	1.00	1	ug/L	KCS
Bromochloroethane	11	74-87-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	11	79-27-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.50	1	ug/L	KCS
Bromofluorane	11	79-23-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	11	74-87-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	11	75-15-0	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	11	58-23-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	11	108-90-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	0.54	J	0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **190919-11**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	11	67-66-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	11	74-87-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	11	156-59-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	19.4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	11	10001-04-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	11	10646-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	11	75-95-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	11	75-71-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	11	105-41-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	11	74-98-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	11	17800-25-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	11	75-09-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	11	95-47-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	11	105-65-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PCE)	11	127-18-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	11	108-88-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	11	156-60-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	11	10021-02-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	11	110-87-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	11	79-07-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	2.74		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	11	79-09-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	11	108-05-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	11	75-01-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.54		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	11	1500-20-1	SW8260B	04/08/2019 15:50	04/08/2019 15:50	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	11	68-12-3	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 4-Bromofluorobenzene (Sum)	11	83-5-5	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 2-Bromoethoxyethane (Sum)	11	100-3-5	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: Toluene-d8 (Sum)	11	87-8-3	75-130	04/08/2019 15:50	04/08/2019 15:50							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1809181-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Unit	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	12	7440-50-9	8260-1631	04/04/2019 17:30	04/05/2019 16:11	BLDG		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **190919-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	12	600-20-9	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-68-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	12	79-34-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	12	79-00-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	12	79-34-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	12	75-35-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	12	88-19-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	85-53-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	12	107-06-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	79-67-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	12	106-46-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	0.73	J	0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	12	78-28-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	12	99-10-9	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	12	109-10-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.50	5.00	1	ug/L	KCS
Acetone	12	63-06-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	12	107-13-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.70	3.00	1	ug/L	KCS
Benzene	12	71-43-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	12	74-97-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	12	75-27-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	12	79-26-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	12	74-83-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	12	75-15-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	12	58-23-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	12	106-90-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **180919-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-05-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	12	74-87-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	12	156-59-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	PL4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	12	10021-04-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	12	10648-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	12	74-93-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	12	75-71-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	12	100-41-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	12	74-88-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	12	17820-25-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	12	75-09-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	12	95-47-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	12	100-42-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	12	127-18-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	12	108-88-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	12	156-60-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	12	10021-03-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	12	115-87-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	12	79-07-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	2-85		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	12	79-09-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	12	108-05-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	12	75-01-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 190919-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	12	1330-20-7	SW8260B	04/09/2019 16:12	04/09/2019 16:12	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	12	109-66-5	70-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1-Dichloroethane (Sum)	12	78-07-1	70-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1,1-Trichloroethane (Sum)	12	79-11-8	70-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1,2-Trichloroethane (Sum)	12	78-07-1	70-130	04/09/2019 16:12	04/09/2019 16:12							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1809181-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	11	7440-50-6	8060100	04/04/2019 17:30	04/05/2019 16:17	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **190919-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	11	630-20-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-68-8	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	13	79-34-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	78-24-2	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	16	78-29-4	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	96-18-4	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	107-06-2	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	20	78-87-5	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	21	106-46-7	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	22	75-35-3	SW82009	04/08/2019 16:34	04/08/2019 16:34	BL00		0.00	0.00	1	ug/L	KCS
2-Pentanone (MIBK)	23	531-78-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		2.20	0.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	24	109-10-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.50	0.00	1	ug/L	KCS
Acetone	25	67-66-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	26	107-13-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.70	0.00	1	ug/L	KCS
Benzene	27	71-40-2	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	28	74-97-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.00	1.00	1	ug/L	KCS
Bromodichloroethane	29	75-27-4	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	0.80	1	ug/L	KCS
Bromofluorane	30	79-25-2	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	31	74-83-9	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	32	75-18-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	33	56-23-5	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	34	108-90-7	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **1909181-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	13	74-87-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-69-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	16	10001-01-0	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	20	100-91-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	21	78-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	22	17901-17-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	23	75-09-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	24	95-47-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Styrene	25	106-42-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	26	127-18-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Toluene	27	108-88-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	28	156-65-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	29	10001-02-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	30	193-87-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	31	79-01-6	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	32	76-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	33	108-05-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	34	75-01-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1909191-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	11	1533-20-7	SM5000	04/09/2019 16:34	04/09/2019 16:34	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	11	107 %	75-130	04/09/2019 16:34	04/09/2019 16:34							
Sum: 4-Bromochlorobenzene (Sum)	11	95.2 %	75-130	04/09/2019 16:34	04/09/2019 16:34							
Sum: Dibromofluoromethane (Sum)	11	100 %	75-130	04/09/2019 16:34	04/09/2019 16:34							
Sum: Toluene-d8 (Sum)	11	94.3 %	75-130	04/09/2019 16:34	04/09/2019 16:34							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-32

Laboratory Sample ID: 1909161-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	14	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:28	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-02

Laboratory Sample ID: 190919-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	14	630-20-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	14	71-68-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	14	79-34-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	14	79-34-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	14	79-34-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	14	95-19-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	14	95-50-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	14	107-06-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	14	78-87-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	14	106-46-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	0.72	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	14	78-93-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		3.00	5.00	1	ug/L	KCS
2-Propanone (MIBK)	14	99-14-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	14	106-15-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	14	67-64-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	14	107-13-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	14	71-43-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	1.43		0.40	1.00	1	ug/L	KCS
Bromochloromethane	14	74-97-0	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	14	75-27-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	14	79-25-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	14	74-83-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	14	75-15-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	14	56-23-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	14	106-90-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	5.38		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1909161-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	14	75-03-3	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	14	67-68-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	14	74-87-3	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	14	156-88-2	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	14	10061-01-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	14	124-48-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.85	0.90	1	ug/L	KCS
Dibromomethane	14	74-95-3	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	14	75-71-8	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	14	100-41-4	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	14	78-88-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	14	119601-25	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	14	75-09-2	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		3.80	4.00	1	ug/L	KCS
o-Xylene	14	95-47-8	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Styrene	14	106-42-3	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	14	127-18-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Toluene	14	108-88-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	14	156-85-1	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	14	10061-02-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	14	110-87-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		1.80	4.00	1	ug/L	KCS
Trichloroethylene	14	79-01-6	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	14	71-68-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	14	108-05-4	SW82008	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	14	75-01-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1909191-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Arynes, Total	14	1533-25-1	SW8260B	04/09/2019 16:56	04/09/2019 16:56	BLOD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	14	100 %	70-120	04/09/2019 16:56	04/09/2019 16:56							
Sum: 1,1-Dichloroethane (Sum)	14	99.8 %	70-120	04/09/2019 16:56	04/09/2019 16:56							
Sum: Ethoxyethoxyethane (Sum)	14	101 %	70-120	04/09/2019 16:56	04/09/2019 16:56							
Sum: Toluene (Sum)	14	99.1 %	70-120	04/09/2019 16:56	04/09/2019 16:56							
Head Space Analysis by GC												
Methane	14021	74-82-8	MS175M	04/15/2019 11:34	04/15/2019 11:34	2290		14.5	25.0	1	ug/L	DFH
Sum Analytes (Sum)	14021	100 %	70-120	04/15/2019 11:34	04/15/2019 11:34							
Wet Chemistry Analysis												
Alkalinity	14	NA	SM21 2009-0511	04/15/2019 15:07	04/15/2019 15:15	212		5.0	5.0	1	mg/L	TMB
Chloride	14	16887-05-8	EPA300.0 M-1	04/05/2019 15:48	04/05/2019 15:47	15.0		0.5	1.0	1	mg/L	BC
Nitrate as N	14	14797-55-8	Calc.	04/11/2019 14:28	04/11/2019 14:27	BLOD		0.110	0.150	1	mg/L	PHM
Nitrate-Nitrite as N	14	NA	SM22 4000-4039 2011	04/10/2019 14:28	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	RLM
Nitrite as N	14	14797-55-8	SM22 4000-4039 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	14	14808-79-8	EPA300.0 M-1	04/05/2019 15:43	04/05/2019 15:47	7.4		0.5	1.0	1	mg/L	BC
Sulfide	14	16886-29-8	SW8215	04/09/2019 17:22	04/09/2019 17:22	BLOD		0.02	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	15	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:40	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	15	630-20-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	15	71-68-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	15	79-34-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	15	79-00-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	78-24-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	4.44		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	15	75-35-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	88-18-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	15	85-83-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	15	107-06-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	78-87-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	15	106-48-7	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	15	78-93-3	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	15	99-79-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	15	106-10-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.50	5.00	1	ug/L	KCS
Acetone	15	67-64-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	15	107-13-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.70	5.00	1	ug/L	KCS
Benzene	15	71-43-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	15	74-97-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	15	75-27-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	15	78-25-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	15	74-83-9	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	15	75-15-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	15	50-23-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
Chlorobenzene	15	108-90-7	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **CLP-15A**

Laboratory Sample ID: **190919-15**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-05-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	15	67-66-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	15	74-87-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-59-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	14.3		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	15	10021-04-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	15	13466-1	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	15	74-93-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	15	75-71-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	15	105-41-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	15	74-98-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	15	17960-07-9	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.60	2.00	1	ug/L	KCS
		1										
Methylene chloride	15	75-09-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	15	95-47-6	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	15	100-42-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PCE)	15	127-18-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	15	108-88-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	15	156-60-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	15	10021-02-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	15	110-87-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	15	79-07-6	SW82600	04/08/2019 17:19	04/08/2019 17:19	6.19		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	15	72-69-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	15	108-05-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	15	75-01-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	15	15.00-20.7	SW826008	04/08/2019 17:19	04/08/2019 17:19	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene-04 (Sum)	15	104 %	79-120	04/08/2019 17:19	04/08/2019 17:19							
Sum: 1,1-Dibromoethene-04 (Sum)	15	94.2 %	79-120	04/08/2019 17:19	04/08/2019 17:19							
Sum: 1,2-Dibromoethene-04 (Sum)	15	97.9 %	79-120	04/08/2019 17:19	04/08/2019 17:19							
Sum: Toluene-05 (Sum)	15	99.1 %	79-120	04/08/2019 17:19	04/08/2019 17:19							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	15	74-82-6	MS/17MM	04/15/2019 10:42	04/15/2019 10:43	442		0.0	0.0	1	ug/L	CHS
Sum Analytes (Sum)	15	100 %	75.130	04/15/2019 10:43	04/15/2019 10:43							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	15	na	SM22 2520B-2011	04/15/2019 15:07	04/15/2019 15:18	100		0.0	0.0	1	mg/L	TMB
Chloride	15	18887-00-8	EPA300.0 82.1	04/08/2019 20:54	04/09/2019 20:54	88.3		0.5	1.0	1	mg/L	BG
Nitrate as N	15	14797-65-8	Com.	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.150	0.150	1	mg/L	PHM
Nitrosodichloro as N	15	na	SM22 4500-NO3-M 3011	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.10	0.10	1	mg/L	Row25
Nitrite as N	15	14797-65-8	SM22 4500-NO2-M 3011	04/04/2019 07:32	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	15	14808-75-8	EPA300.0 82.1	04/08/2019 20:54	04/08/2019 20:54	91.4		0.5	1.0	1	mg/L	BG
Sulfide	15	15428-25-8	SW6215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:47	0.23		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **PZ-4E**

Laboratory Sample ID: **1809161-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	18	630-20-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-68-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	95-18-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	107-06-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	78-87-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	18	75-56-5	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	531-78-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-87-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	18	79-25-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	18	75-16-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **PZ-4E**

Laboratory Sample ID: **1909161-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	18	156-59-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	1.80		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10021-04-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	10648-1	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	18	74-93-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	18	105-41-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Hexachloroethane	18	74-88-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	18	17899-75-1	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		3.00	6.00	1	ug/L	KCS
o-Xylene	18	95-47-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	18	127-18-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	18	156-60-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10021-03-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-87-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.00	6.00	1	ug/L	KCS
Trichloroethylene	18	79-07-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.58	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	79-09-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.57		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1515-20-1	8963008	04082019 17:41	04082019 17:41	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 4-Bromofluorobenzene (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 2-Bromoacetonitrile (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: Toluene-d8 (Sum)	18		75-130	04082019 17:41	04082019 17:41							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	18	74-82-6	MS/17PM	04/15/2019 10:58	04/15/2019 10:58	2560		12.0	25.0	1	µg/L	DFH
Sum Analytes (Sum)	18	100 %	75-100	04/15/2019 10:58	04/15/2019 10:58							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	18	NA	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	25.2		0.0	0.0	1	mg/L	TMB
Chloride	18	98897-00-8	EPA300.0 R2.1	04/08/2019 21:18	04/08/2019 21:18	2.3		0.5	1.0	1	mg/L	BG
Nitrate as N	18	14797-65-8	Calc.	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.150	0.150	1	mg/L	PHM
Nitrate/nitrite as N	18	NA	SM22 4500-NO3F-2011	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	PHM
Nitrite as N	18	14797-65-0	SM22 4500-NO2B-2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	18	14808-79-9	EPA300.0 R2.1	04/08/2019 21:16	04/08/2019 21:16	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	18	18498-25-8	SW9215	04/08/2019 17:20	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	17	7489-97-6	8474PSA	04/11/2019 08:50	04/11/2019 13:43	BL00		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	17	630-20-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	17	71-68-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	17	79-34-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	17	79-00-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	17	79-34-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLD	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	17	75-35-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	80-10-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	17	85-53-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	17	107-06-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	79-67-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	17	106-48-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	17	78-93-3	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	17	99-10-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	17	106-10-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.50	5.00	1	ug/L	KCS
Axetone	17	67-64-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	17	107-13-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	17	71-43-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	17	74-97-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	17	75-27-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	17	79-25-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	17	74-83-9	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	17	75-15-0	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	17	50-29-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	17	108-90-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909191-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	17	75-05-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	17	67-66-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	17	74-87-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	17	156-59-2	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	17	10061-01-9	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	17	74-95-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	17	75-71-8	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	17	100-41-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	17	78-88-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	17	11961-27-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	17	75-09-2	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	17	95-47-8	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Styrene	17	100-42-5	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
tert-Butylbenzene (TBB)	17	127-18-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Toluene	17	108-88-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	17	156-55-1	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	17	10061-03-8	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	17	110-87-8	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	17	79-01-6	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	17	71-68-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	17	108-05-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	17	75-01-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	17	1515-20-1	SW82608	04082019 18:03	04082019 18:03	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene-04 (Sum)	17	107 %	75-130	04082019 18:03	04082019 18:03							
Sum: 1,1-Dibromoethene-04 (Sum)	17	95.4 %	75-130	04082019 18:03	04082019 18:03							
Sum: 1,2-Dibromoethene-04 (Sum)	17	100 %	75-130	04082019 18:03	04082019 18:03							
Sum: Toluene-08 (Sum)	17	98.7 %	75-130	04082019 18:03	04082019 18:03							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1806181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Need Spouse Analysis by GC												
Methane	17	74-82-6	MS/17PM	04/15/2019 11:08	04/15/2019 11:08	BL00		0.9	5.0	1	ug/L	CHS
Sum Analytes (Sum)	17		75-130	04/15/2019 11:08	04/15/2019 11:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909161-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	17	na	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	82.8		0.0	0.0	1	mg/L	TMB
Chloride	17	98897-00-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	4.3		0.5	1.0	1	mg/L	BG
Nitrate as N	17	14797-65-8	Celn.	04/11/2019 14:27	04/11/2019 14:27	0.221		0.150	0.150	1	mg/L	PHM
Nitrate+Nitrite as N	17	na	SM22 4500-NO3F- 2011	04/11/2019 14:27	04/11/2019 14:27	0.23		0.10	0.10	1	mg/L	PHM
Nitro as N	17	14797-65-0	SM22 4500-NO2B- 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	17	14808-79-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	51.9		0.5	1.0	1	mg/L	BG
Sulfide	17	18496-25-8	SW9215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 1909181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	847475A	04/11/2019 09:50	04/11/2019 13:40	BLD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-320**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	18	630-20-8	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-68-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	95-18-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	107-06-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	78-87-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	18	75-35-3	SW82009	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	521-78-8	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	3.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-87-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	18	79-25-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	18	75-18-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	18	54-23-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-K20**

Laboratory Sample ID: **180919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	18	156-69-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10001-01-0	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	124-48-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	18	74-96-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	18	100-91-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	18	78-88-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	18	119501-20	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	18	95-47-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	18	127-18-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutylene	18	156-65-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10001-03-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-87-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	18	79-01-6	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	75-68-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Hydroc. Total	18	1515-20-1	SW8260B	04/09/2019 18:26	04/09/2019 18:26	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	18	100 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: 4-Bromochlorobenzene (Sum)	18	87.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Ethoxyfluoromethane (Sum)	18	104 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Toluene-d8 (Sum)	18	86.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	19	7439974	847475A	04/11/2019 08:50	04/11/2019 13:48	BLD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-01

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	19	630-20-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	19	71-68-8	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	19	79-34-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-00-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	19	79-34-3	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	19	79-34-4	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	19	95-18-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	19	95-50-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	107-06-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	78-87-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	19	106-46-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	19	75-55-5	SW82009	04/08/2019 18:48	04/08/2019 18:48	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	19	531-78-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	19	109-10-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	19	67-66-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	19	107-13-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	19	71-43-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	19	74-87-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	19	75-27-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	19	79-25-2	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	19	74-83-9	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	19	75-16-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	50.0	1	ug/L	KCS
Carbon tetrachloride	19	56-23-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	19	108-90-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	19	75-05-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.70	1.00	1	ug/L	KCS
Chloroform	19	67-66-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.50	0.50	1	ug/L	KCS
Chloromethane	19	74-87-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	19	156-59-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	19	10001-01-0	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	19	134-48-1	SW82000	04/09/2019 15:47	04/09/2019 15:48	BLDD		0.85	0.80	1	ug/L	KCS
Dibromomethane	19	74-95-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.55	1.00	1	ug/L	KCS
Ethylbenzene	19	100-41-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Isobutene	19	78-88-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		1.70	10.0	1	ug/L	KCS
m-p-Xylene	19	106-42-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	2.00	1	ug/L	KCS
Methylene chloride	19	75-09-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		3.00	4.00	1	ug/L	KCS
o-Xylene	19	95-47-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Styrene	19	106-42-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	19	127-18-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Toluene	19	108-88-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	19	156-60-1	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	19	10001-03-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	19	110-87-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	19	79-01-6	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	19	71-68-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	19	108-05-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	19	75-01-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	19	1330-20-1	SW8260B	04/09/2019 18:48	04/09/2019 18:48	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	19	96-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 1,1-Dibromoethene (Sum)	19	96-2	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 1,2-Dibromoethene (Sum)	19	96-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: Toluene (Sum)	19	95-2	79-130	04/09/2019 18:48	04/09/2019 18:48							

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Method (Title) by EPA 8000-7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
Batch BCD00198 - EPA208.2/92.8										
Blank (BCD0198-BLKT)										
Cobalt	BLOD	4.0	ug/L							
Prepared: 04/04/2019 Analyzed: 04/05/2019										
LCS (BCD0198-891)										
Cobalt	498	4.0	ug/L	500		99.6	80-120			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
LCS Spk (BCD0198-893)										
Cobalt	500	4.0	ug/L	500		99.6	80-120	0.118	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike (BCD0198-891)										
Cobalt	Source: 1800191-10	4.0	ug/L	500	98.2	100	75-125			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike (BCD0198-893)										
Cobalt	Source: 1800191-12	4.0	ug/L	500	BLOD	98.5	75-125			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike Spk (BCD0198-893)										
Cobalt	Source: 1800191-10	4.0	ug/L	500	98.2	101	75-125	0.688	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike Spk (BCD0198-891)										
Cobalt	Source: 1800191-12	4.0	ug/L	500	BLOD	98.4	75-125	0.873	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Batch BCD00199 - SW7470A										
Blank (BCD00199-BLKT)										
Mercury	BLOD	0.20	ug/L							
Prepared & Analyzed: 04/11/2019										
LCS (BCD00199-891)										
Mercury	1.34	0.20	ug/L	1.00		80.7	80-120			
Prepared & Analyzed: 04/11/2019										

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/16/2019 5:01:15PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00390 - SW7475A										
LC8 Dip (BCD00390-B001)										
Mercury	2.88	0.20	ug/L	2.50		88.2	80-120	8.88	20	
Matrix Spike (BCD00390-M001)										
Source: 1808175-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.54	0.20	ug/L	2.50	0.00	61.7	80-120			NS
Matrix Spike (BCD00390-M002)										
Source: 1808188-01 Prepared & Analyzed: 04/11/2019										
Mercury	2.58	0.20	ug/L	1.50	0.00	61.2	60-135			
Matrix Spike Dip (BCD00390-M003)										
Source: 1808175-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.45	0.20	ug/L	2.50	0.00	58.2	80-120	8.88	20	NS
Matrix Spike Dip (BCD00390-M000)										
Source: 1808188-01 Prepared & Analyzed: 04/11/2019										
Mercury	2.25	0.20	ug/L	2.50	0.00	60.3	80-120	2.00	20	

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Date Issued: 4/16/2019 5:01:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B000002 - BWS0008

Blank (B000002-BLANK)

Prepared & Analyzed: 04/09/2019

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,2-Dichlorobenzene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1-Hexane (MIX)	BL00	5.00	ug/L
2-Hexane (MIX)	BL00	5.00	ug/L
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acrylonitrile	BL00	5.00	ug/L
Benzene	BL00	1.00	ug/L
Bromoethane	BL00	1.00	ug/L
Bromochloroethane	BL00	0.50	ug/L
Bromobenzene	BL00	1.00	ug/L
Bromomethane	BL00	1.00	ug/L
Carbon disulfide	BL00	10.0	ug/L
Carbon tetrachloride	BL00	1.00	ug/L
Chlorobenzene	BL00	1.00	ug/L
Chloroethane	BL00	1.00	ug/L

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Blank (B000001-BLANK) Preserved & Analyzed 04/09/2019										
Chloroform	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,3-Dichloropropene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Isopentane	BL00	10.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methylcyclohexane	BL00	4.00	ug/L							
n-Butane	BL00	1.00	ug/L							
Butane	BL00	1.00	ug/L							
Tetrachloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	2.00	ug/L							
Sum 1,2-Dichloroethane-ol (Sum)	21.7		ug/L	50.0		103	70-120			
Sum 4-Bromobromobenzene (Sum)	49.9		ug/L	50.0		96.0	75-120			
Sum Dibromofluoromethane (Sum)	49.1		ug/L	50.0		98.3	70-130			

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00010 - 04/09/2019										
Blank (BCD00010-BLANK)										
Prepared & Analyzed: 04/09/2019										
Sum: Ethanol-d1 (Sum)	48.8		ug/L	50.0		97.6	75-130			
LC9 (BCD00010-001)										
Prepared & Analyzed: 04/09/2019										
1,1,1,2-Tetrafluoroethane	44.5	0.4	ug/L	50.0		89.1	50-130			
1,1,1-Trichloroethane	44.9	1	ug/L	50.0		89.8	50-130			
1,1,2,2-Tetrafluoroethane	45.8	0.4	ug/L	50.0		91.6	50-130			
1,1,2-Dichloroethane	47.1	1	ug/L	50.0		94.2	75-130			
1,1-Dichloroethane	42.6	1	ug/L	50.0		85.2	75-130			
1,1-Dichloroethene	43.1	1	ug/L	50.0		86.2	75-130			
1,2-Dichloroethane	45.4	1	ug/L	50.0		90.7	75-130			
1,2-Dichloroethene	45.3	1	ug/L	50.0		90.6	75-130			
1,2-Dichlorobenzene	38.4	1	ug/L	50.0		76.8	75-130			
1,3-Dichlorobenzene	45.2	1	ug/L	50.0		90.4	75-130			
1,4-Dichlorobenzene	42.9	1	ug/L	50.0		85.7	75-130			
2-Methoxy (MMA)	41.0	0	ug/L	50.0		81.9	30-130			
2-Propanone (MIBK)	46.2	0	ug/L	50.0		92.4	50-130			
4-Methyl-2-pentanone (MIBK)	43.2	0	ug/L	50.0		86.4	50-130			
Acetone	44.4	10	ug/L	50.0		88.7	40-140			
Acrylonitrile	281	0	ug/L	250		112	75-130			
Benzene	45.3	1	ug/L	50.0		90.7	50-130			
Bromoform	41.8	1	ug/L	50.0		83.6	50-130			
Bromochloromethane	45.8	0.5	ug/L	50.0		91.7	75-130			
Bromobenzene	44.7	1	ug/L	50.0		89.4	75-130			
Bromomethane	32.0	1	ug/L	50.0		64.1	30-145			
Carbon disulfide	47.8	10	ug/L	50.0		95.7	35-100			

Certificate of Analysis

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Volatle Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: B000031 - B000008										
LOQ: B000031-B000008										
Prepared & Analyzed: 04/09/2019										
Carbon tetrachloride	45.8	1	ug/L	50.0		51.8	50-150			
Chlorobenzene	45.8	1	ug/L	50.0		51.2	50-150			
Chloroethane	42.1	1	ug/L	50.0		54.2	50-150			
Chloroform	41.7	0.5	ug/L	50.0		51.4	50-150			
Chloroform-d2	45.8	1	ug/L	50.0		51.5	40-125			
cis-1,2-Dichloroethane	49.2	1	ug/L	50.0		55.4	75-150			
cis-1,3-Dichloropropene	46.7	1	ug/L	50.0		50.5	75-150			
Dibromochloromethane	48.1	0.5	ug/L	50.0		56.2	50-150			
Dibromomethane	49.4	1	ug/L	50.0		54.7	75-150			
Ethylbenzene	44.0	1	ug/L	50.0		58.1	75-150			
m,p-Xylenes	52.7	2	ug/L	100		52.7	75-150			
Methylene chloride	41.8	4	ug/L	50.0		55.5	50-150			
o-Xylene	45.2	1	ug/L	50.0		50.5	50-150			
Oxene	44.6	1	ug/L	50.0		50.6	50-150			
1,2,4-Trichlorobenzene (TCE)	58.2	1	ug/L	100		132	40-150			
Toluene	45.8	1	ug/L	50.0		51.7	75-150			
trans-1,2-Dichloroethane	41.6	1	ug/L	50.0		52.6	50-150			
trans-1,3-Dichloropropene	44.7	1	ug/L	50.0		55.5	50-150			
Trichloroethylene	42.0	1	ug/L	50.0		54.8	75-150			
Trichlorofluoromethane	49.2	1	ug/L	50.0		55.8	50-150			
Vinyl chloride	45.0	0.5	ug/L	50.0		50.0	50-150			
Sum: 1,3-Dichlorobenzene (Sum)	50.8		ug/L	50.0		102	75-150			
Sum: 4-Bromodibromobenzene (Sum)	49.8		ug/L	50.0		99.3	75-150			
Sum: Dibromofluoromethane (Sum)	48.8		ug/L	50.0		97.8	75-150			
Sum: Ethene (Sum)	49.0		ug/L	50.0		97.8	75-150			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Extricate (B000002-008)										
Source: 1909191-02 Preserved & Analyzed: 04/08/2019										
1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dibromochloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloropropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromopropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromoethane	BL00	1.00	ug/L		BL00			NA	30	
1,4-Dichlorobenzene	11.8	1.00	ug/L		10.8			9.47	30	
toluene (MIX)	BL00	5.00	ug/L		BL00			NA	30	
2-Hexanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
Acetone	59.9	10.0	ug/L		47.1			7.77	30	
Acetonitrile	BL00	5.00	ug/L		BL00			NA	30	
Benzene	1.76	1.00	ug/L		1.79			1.65	30	
Bromoethane	BL00	1.00	ug/L		BL00			NA	30	
Bromochloroethane	BL00	0.50	ug/L		BL00			NA	30	
Bromobenzene	BL00	1.00	ug/L		BL00			NA	30	
Bromomethane	BL00	1.00	ug/L		BL00			NA	30	
Carbon disulfide	BL00	10.0	ug/L		BL00			NA	30	
Carbon tetrachloride	BL00	1.00	ug/L		BL00			NA	30	
Chlorobenzene	4.73	1.00	ug/L		4.90			11.4	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: B000001 - 000000										
Duplicate (B000001-DUP1)										
Source: 1909191-02 Project & Analyzed: 04082019										
Chlorobenzene	BL00	0.50	ug/L		BL00			NA	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	
cis-1,2-Dichloroethylene	2.92	1.00	ug/L		3.92			6.62	30	
cis-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
Dibromochloromethane	BL00	0.50	ug/L		BL00			NA	30	
Dibromomethane	BL00	1.00	ug/L		BL00			NA	30	
Ethylbenzene	BL00	1.00	ug/L		BL00			NA	30	
Isooctane	BL00	10.0	ug/L		BL00			NA	30	
m,p-Xylene	BL00	2.00	ug/L		BL00			NA	30	
Methoxychlor	BL00	4.00	ug/L		BL00			NA	30	
n-Butane	BL00	1.00	ug/L		BL00			NA	30	
Butane	BL00	1.00	ug/L		BL00			NA	30	
Tetrachloroethylene (PCE)	BL00	1.00	ug/L		BL00			NA	30	
Toluene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,2-Dichloroethylene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L		BL00			NA	30	
Trichloroethylene	0.38	1.00	ug/L		BL00			NA	30	
Trichlorofluoromethane	BL00	1.00	ug/L		BL00			NA	30	
Vinyl acetate	BL00	10.0	ug/L		BL00			NA	30	
Vinyl chloride	BL00	0.50	ug/L		BL00			NA	30	
Xylenes, Total	BL00	2.00	ug/L		BL00			NA	30	
Sum 1,2-Dichloroethane-ol (Sum)	30.0		ug/L	30.0		100	70-120			
Sum 4-Bromobromobenzene (Sum)	49.2		ug/L	50.0		97.8	70-120			
Sum Dibromofluoromethane (Sum)	49.2		ug/L	50.0		98.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCO0001 - 000000										
Duplicate (BCO0001-DUP1)										
Sum: Total=48 (Sum)		48.8		ug/L	50.0	97.6	75-130			
Matrix Spike (BCO0001-MSP1)										
Source: 1800181-02		Prepared & Analyzed: 04/09/2019								
1,1,1,2-Tetrafluoroethane	41.9	0.4	ug/L	50.0	BLDG	83.8	50-130			
1,1,1-Trichloroethane	42.8	1	ug/L	50.0	BLDG	85.6	50-130			
1,1,2,2-Tetrafluoroethane	44.5	0.4	ug/L	50.0	BLDG	89.0	50-130			
1,1,2-Dichloroethane	45.0	1	ug/L	50.0	BLDG	90.0	75-125			
1,1-Dichloroethane	42.8	1	ug/L	50.0	BLDG	84.7	75-135			
1,1-Dichloroethene	40.6	1	ug/L	50.0	BLDG	81.2	75-130			
1,2-Dichloroethane	41.4	1	ug/L	50.0	BLDG	82.8	75-125			
1,2-Dichloroethene	43.7	1	ug/L	50.0	BLDG	87.4	75-120			
1,2-Dibromoethane	49.8	1	ug/L	50.0	BLDG	99.6	75-130			
1,2-Dibromooethane	41.0	1	ug/L	50.0	BLDG	82.0	75-120			
1,4-Dibromobenzene	50.0	1	ug/L	50.0	BLDG	100.0	75-125			
2-Bromobenzene (MIBK)	41.3	0	ug/L	50.0	BLDG	82.6	50-130			
2-Methoxybenzene (MIBK)	45.7	0	ug/L	50.0	BLDG	91.4	50-130			
4-Methyl-2-pentanone (MIBK)	43.3	0	ug/L	50.0	BLDG	86.6	50-130			
Acetone	55.8	10	ug/L	50.0	47.1	93.4	40-140			
Acrylonitrile	299	0	ug/L	299	BLDG	100	75-130			
Benzene	43.8	1	ug/L	50.0	1.78	84.0	50-120			
Bromochloromethane	42.4	1	ug/L	50.0	BLDG	84.8	50-130			
Bromodichloromethane	43.4	0.5	ug/L	50.0	BLDG	86.8	75-120			
Bromobenzene	43.1	1	ug/L	50.0	BLDG	86.2	75-130			
Bromomethane	28.0	1	ug/L	50.0	BLDG	56.0	30-145			
Carbon disulfide	48.8	10	ug/L	50.0	BLDG	97.6	35-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	UREC	UREC Limit	RPD	RPD Limit	Qual
Batch: B000013 - B000008										
Main: Spike (B000013-001)										
Source: 1908191-02 Prepared & Analyzed: 04/08/2019										
Carbon tetrachloride	41.8	1	ug/L	50.0	BLCO	51.7	50-140			
Chlorobenzene	49.0	1	ug/L	50.0	4.90	55.3	50-120			
Chloroethane	42.3	1	ug/L	50.0	BLCO	51.4	50-120			
Chloroform	42.8	0.5	ug/L	50.0	BLCO	49.7	50-120			
Chloroform-d2	41.4	1	ug/L	50.0	BLCO	51.7	50-120			
cis-1,2-Dichloroethane	49.0	1	ug/L	50.0	3.12	55.4	70-120			
cis-1,3-Dichloropropene	42.5	1	ug/L	50.0	BLCO	50.0	70-120			
Dibromochloromethane	44.7	0.5	ug/L	50.0	BLCO	55.4	50-120			
Dibromomethane	40.9	1	ug/L	50.0	BLCO	51.8	70-120			
Ethylbenzene	42.8	1	ug/L	50.0	BLCO	55.8	70-120			
m,p-Xylene	51.8	2	ug/L	100	BLCO	55.4	70-120			
Methylene chloride	41.4	4	ug/L	50.0	BLCO	55.3	50-140			
o-Xylene	44.4	1	ug/L	50.0	BLCO	55.5	50-120			
Oxene	45.8	1	ug/L	50.0	BLCO	51.3	50-120			
1,2,4-Trichlorobenzene (TCE)	53.1	1	ug/L	50.0	BLCO	1.09	40-100			
Toluene	42.8	1	ug/L	50.0	BLCO	54.4	70-120			
trans-1,2-Dichloroethane	39.8	1	ug/L	50.0	BLCO	71.5	50-140			
trans-1,3-Dichloropropene	45.8	1	ug/L	50.0	BLCO	51.0	50-140			
Trichloroethylene	41.7	1	ug/L	50.0	BLCO	52.8	70-120			
Trichlorofluoromethane	38.1	1	ug/L	50.0	BLCO	75.3	50-140			
Vinyl chloride	42.9	0.5	ug/L	50.0	BLCO	50.7	50-140			
Sum: 1,3-Dichlorobenzene (Sum)	50.0		ug/L	50.0		55.8	70-120			
Sum: 4-Bromobromobenzene (Sum)	50.0		ug/L	50.0		1.01	70-120			
Sum: Dibromofluoromethane (Sum)	51.3		ug/L	50.0		1.03	70-120			
Sum: Ethene (Sum)	49.7		ug/L	50.0		57.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Head Space Analysis by GC - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD044H - No Prop VOC										
Blank (BCD044H-BLK)										
Prepared & Analyzed: 04/15/2019										
Methane	BLOD	5.0	ug/L							
Sum Acetylene (Sum)	490		ug/L	400		100	70-130			
LCS (BCD044H-LCS)										
Prepared & Analyzed: 04/15/2019										
Methane	209	5.0	ug/L	200		97.2	70-130			
Sum Acetylene (Sum)	446		ug/L	400		100	70-130			
Duplicate (BCD044H-DUP1)										
Source: 1809161-18 Prepared & Analyzed: 04/15/2019										
Methane	412	5.0	ug/L		443			7.22	20	
Sum Acetylene (Sum)	407		ug/L	400		100	70-130			
Matrix Spike (BCD044H-MS1)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	207	5.0	ug/L	200	BLOD	96.8	70-130			
Sum Acetylene (Sum)	402		ug/L	400		100	70-130			
Matrix Spike Dup (BCD044H-MS2)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	200	5.0	ug/L	200	BLOD	107	70-130	9.61	20	
Sum Acetylene (Sum)	408		ug/L	400		100	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0164 - No Prep Wet Chem										
Blank (BCD0164-BLK1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BCD0164-BS1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.09	0.05	mg/L	0.100		91.0	90-120			
Matrix Spike (BCD0164-MS1)				Source: 1909181-01 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120			
Matrix Spike Dup (BCD0164-MS2)				Source: 1909181-02 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120	0.00	20	
Batch BCD0162 - No Prep IC										
Blank (BCD0162-BLK1)				Prepared & Analyzed: 04/08/2019						
Chloride	BLOD	1.0	mg/L							
Sulfate	BLOD	1.0	mg/L							
LCS (BCD0162-BS1)				Prepared & Analyzed: 04/08/2019						
Chloride	20.1	1	mg/L	20.0		103	90-110			
Sulfate	20.1	1	mg/L	20.0		100	90-110			
LCS Dup (BCD0162-BS2)				Prepared & Analyzed: 04/08/2019						
Sulfate	20.1	1	mg/L	20.0		100	90-110	0.110	15	
Chloride	20.1	1	mg/L	20.0		100	90-110	0.040	15	
Matrix Spike (BCD0162-MS1)				Source: 19C1181-01781 Prepared & Analyzed: 04/08/2019						
Chloride	20.9	0.0	mg/L	20.0	17.1	80.7	90-110			ND
Sulfate	64.3	0.0	mg/L	50.0	3.5	107	90-110			ND

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	NASC Limits	RPD	RPD Limit	Qual
Batch BCD0182 - No Prep IC										
Matrix Spike Dup (BCD0182-MSD) Source: 18C1181-678E1 Prepared & Analyzed: 04/08/2019										
Sulfate	64.5	5.0	mg/L	80.0	3.5	100	90-110	5.118	15	Met
Chloride	203	5.0	mg/L	80.0	171	60.8	90-110	0.0066	15	Met
Batch BCD0284 - No Prep Wet Chem										
Blank (BCD0284-BLKT) Prepared & Analyzed: 04/08/2019										
Sulfate	BL00	1.00	mg/L							
LCS (BCD0284-881) Prepared & Analyzed: 04/08/2019										
Sulfate	4.94	1	mg/L	5.00		90.8	80-120			
LCS-Dup (BCD0284-882) Prepared & Analyzed: 04/08/2019										
Sulfate	5.19	1	mg/L	5.00		104	60-120	13.4	20	
Matrix Spike (BCD0284-MS1) Source: 18C0178-4E Prepared & Analyzed: 04/08/2019										
Sulfate	2.83	1.00	mg/L	5.00	BLOD	117	75-125			
Matrix Spike Dup (BCD0284-MS2) Source: 18C0178-4E Prepared & Analyzed: 04/08/2019										
Sulfate	4.08	1.00	mg/L	5.00	BLOD	90.0	75-125	16.3	20	
Batch BCD0414 - No Prep Wet Chem										
Blank (BCD0414-BLKT) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0414-881) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	2.48	0.1	mg/L	2.50		99.2	90-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BCD0414 - No Prep Wet Chem										
Matrix Spike (BCD0414-MS1)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.54	0.10	mg/L	2.50	BL00	142	90-110			NS
Matrix Spike Dup (BCD0414-MS2)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.52	0.10	mg/L	2.50	BL00	141	90-110	0.652	20	NS
Batch BCD0507 - No Prep Wet Chem										
Blank (BCD0507-BLK1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	BL00	5.0	mg/L							
LCS (BCD0507-LCS1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	92.0	5.0	mg/L			104	80-120			
Matrix Spike (BCD0507-MS1)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	141	5.0	mg/L	98.0	92.0	98.0	75-125			
Matrix Spike Dup (BCD0507-MS2)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	138	5.0	mg/L	92.0	92.0	94.0	75-125	1.43	20	
Batch BCD0541 - No Prep Wet Chem										
Blank (BCD0541-BLK1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0541-LCS1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	2.72	0.1	mg/L	2.50		108	90-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BCD0541 - Wet Chem Wet Chem										
Matrix Spike (BCD0541-MS1)					Source: 1809479-44					Prepared & Analyzed: 04/16/2019
Nitrate-Nitrite as N	4.05	0.10	mg/L	2.00	1.74	130	90-110			NS
Matrix Spike Dup (BCD0541-MS2)					Source: 1809479-44					Prepared & Analyzed: 04/16/2019
Nitrate-Nitrite as N	5.02	0.10	mg/L	2.00	1.74	121	90-110	0.879	20	NS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Lead) by EPA 8210/8211 Surface Methods			Preparation Method	EPA 8210/8211	
1900191-03	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-03	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-04	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-05	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-06	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-07	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-08	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-09	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-10	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-11	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-12	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
1900191-13	50.0 mL / 50.0 mL	8210/8211C	SCD0199	SCD0230	AD90027
Metals Chemistry Analysis			Preparation Method	No Prep IIC	
1900191-01	1.00 mL / 1.00 mL	8210/8211C	SCD0199	SCD0283	AC00108
1900191-02	1.00 mL / 1.00 mL	8210/8211C	SCD0199	SCD0283	AC00108
1900191-05	1.00 mL / 1.00 mL	8210/8211C	SCD0199	SCD0283	AC00108
1900191-06	1.00 mL / 1.00 mL	8210/8211C	SCD0199	SCD0283	AC00108
1900191-07	1.00 mL / 1.00 mL	8210/8211C	SCD0199	SCD0283	AC00108
Metals Spec Analysis by GC			Preparation Method	No Prep IIC	
1900191-01	5.00 mL / 5.00 mL	8210/8211C	SCD0494	SCD0613	AC00025
1900191-04	5.00 mL / 5.00 mL	8210/8211C	SCD0494	SCD0613	AC00025
1900191-04611	1.00 mL / 5.00 mL	8210/8211C	SCD0494	SCD0613	AC00025

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Lead Screen Analysis by GC					
			Preparation Method	No Prep W/D	
1800181-05	1.00 mL / 0.05 mL	8104175A	SCD0049	SCD0013	AC00005
1800181-06	1.00 mL / 0.05 mL	8104175A	SCD0049	SCD0013	AC00005
1800181-07	1.00 mL / 0.05 mL	8104175A	SCD0049	SCD0013	AC00005
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800181-01	25.0 mL / 25.0 mL	8402-4000-AC009-2011	SCD0184	SCD0185	AC00002
1800181-04	25.0 mL / 25.0 mL	8402-4000-AC009-2011	SCD0184	SCD0185	AC00002
1800181-05	25.0 mL / 25.0 mL	8402-4000-AC009-2011	SCD0184	SCD0185	AC00002
1800181-06	25.0 mL / 25.0 mL	8402-4000-AC009-2011	SCD0184	SCD0185	AC00002
1800181-07	25.0 mL / 25.0 mL	8402-4000-AC009-2011	SCD0184	SCD0185	AC00002
1800181-02	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-03	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-08	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-09	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-10	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-11	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-01	1.00 mL / 0.05 mL	8402-4000-AC009-2011	SCD0414	SCD0429	AD00055
1800181-04	1.00 mL / 0.05 mL	8402-4000-AC009-2011	SCD0414	SCD0429	AD00055
1800181-05	1.00 mL / 0.05 mL	8402-4000-AC009-2011	SCD0414	SCD0429	AD00055
1800181-07	1.00 mL / 0.05 mL	8402-4000-AC009-2011	SCD0414	SCD0429	AD00055
1800181-01	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-04	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-05	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-06	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-07	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-09	8.00 mL / 0.05 mL	8402-4000-AC009-2011	SCD0041	SCD0060	AC00007

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Waste Organic Compounds by GCMS					
			Preparation Method	SW9200B	
1900191-01	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-02	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-04	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-05	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-06	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-07	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-08	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-09	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-10	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-11	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-12	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-13	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-14	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-15	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-16	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-17	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-18	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
1900191-19	5.00 mL / 5.00 mL	SW9200B	SCD0010	SCD0010	AC00114
Metals (Total) by EPA 8220/8210 Series Methods					
			Preparation Method	SW7470A	
1900191-14	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900191-15	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900191-16	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900191-17	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900191-18	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900191-19	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/16/2019 5:01:15PM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EPAL016.P #2.1 in Non-Potable Water	
Chloride	VELAP/NC, WVDOP
Sulfate	VELAP/NC, WVDOP
MSK17SM in Non-Potable Water	
Methane	VELAP
SM12 23206-2011 in Non-Potable Water	
Alkalinity	VELAP/WVDOP
SM12 4500-W036-2011 in Non-Potable Water	
Nitrite as N	VELAP/WVDOP
SM12 4500-W037-2011 in Non-Potable Water	
Nitrate/nitrite as N	VELAP/WVDOP
SM0010C in Non-Potable Water	
Cobalt	VELAP/WVDOP
SMY676A in Non-Potable Water	
Mercury	VELAP/NC, WVDOP
SM92202 in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,1-Trichloroethane	NC, VELAP, WVDOP
1,1,2,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,2-Trichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethylene	NC, VELAP, WVDOP
1,2,3-Trichloropropane	NC, VELAP, WVDOP
1,2-Dichlorobenzene	NC, VELAP, WVDOP
1,2-Dichloroethane	NC, VELAP, WVDOP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Certified Analyses included in this Report

Analyte	Certification
1,1-Dichloroethane	NC, NELAP, WYDEP
1,1-Dichloroethene	NC, NELAP, WYDEP
2-Butanone (MEK)	NC, NELAP, WYDEP
2-Hexanone (MEK)	NC, NELAP, WYDEP
4-Methyl-2-pentanone (MIBK)	NC, NELAP, WYDEP
Acetone	NC, NELAP, WYDEP
Acrylonitrile	NC, NELAP, WYDEP
Benzene	NC, NELAP, WYDEP
Bromochloromethane	NC, NELAP, WYDEP
Bromoethene	NC, NELAP, WYDEP
Bromomethane	NC, NELAP, WYDEP
Bromonitrile	NC, NELAP, WYDEP
Bromotoluene	NC, NELAP, WYDEP
Bromomethane	NC, NELAP, WYDEP
Carbon disulfide	NC, NELAP, WYDEP
Carbon tetrachloride	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chloroethane	NC, NELAP, WYDEP
Chloroform	NC, NELAP, WYDEP
Chloromethane	NC, NELAP, WYDEP
cis-1,2-Dichloroethylene	NC, NELAP, WYDEP
cis-1,3-Dichloropropene	NC, NELAP, WYDEP
Dibromochloromethane	NC, NELAP, WYDEP
Dibromomethane	NC, NELAP, WYDEP
Dichlorodifluoromethane	NC, NELAP, WYDEP
Ethylbenzene	NC, NELAP, WYDEP
Isomethane	NC, NELAP, WYDEP
m,p-Xylenes	NC, NELAP, WYDEP
Methylene chloride	NC, NELAP, WYDEP
Naphthalene	NC, NELAP, WYDEP

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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Certified Analyses included in this Report

Analyte	Certification
o-Xylene	NC.VELAP.WVDEP
Styrene	NC.VELAP.WVDEP
Tetrachloroethylene (PCE)	NC.VELAP.WVDEP
Toluene	NC.VELAP.WVDEP
trans-1,2-Dichloroethylene	NC.VELAP.WVDEP
trans-1,3-Dichloropropene	NC.VELAP.WVDEP
trans-1,4-Dichloro-2-butene	NC.VELAP.WVDEP
Trichloroethylene	NC.VELAP.WVDEP
Trichlorofluoromethane	NC.VELAP.WVDEP
Vinyl acetate	NC.VELAP.WVDEP
Vinyl chloride	NC.VELAP.WVDEP
Xylenes, Total	NC.VELAP.WVDEP
EMSP15 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Call Number	Expires
MD06	Maryland DE Drinking Water	341	12/31/2019
VELAP Certificate #4337	VELAP-Virginia Certificate #10074	45003	05/14/2019

Certificate of Analysis

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Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
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Date Issued: 4/16/2019 5:01:13PM

Qualifiers and Definitions

J	The reported result is an estimated value.
M	Matrix spike recovery is outside established acceptance limits
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLDD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1264, 1268, 1282, and 1288.



7841 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804)358-8297 FAX

Chain of Custody
 Form # 01501
 Rev. 1.0
 Effective: Feb 14, 2008

CHAIN OF CUSTODY

PAGE 1 of 3

COMPANY NAME: <u>Joyce Engineering, Inc.</u>	INVOICE TO: <u>Colpaper Environmental Services</u>	PROJECT NAME/Quote # <u>LVCWLP Corrective Action Well</u>
CONTACT: <u>Jane White</u>	INVOICE CONTACT: <u>Paul Howard</u>	SITE NAME: <u>Laurel Valley Center Sanitary Landfill (Colpaper)</u>
ADDRESS: <u>1804 Dewey Lane, Richmond, VA 23229</u>	INVOICE ADDRESS: <u>18100 WOODS BLVD SUITE 101, GREENSBORO, NC 27409</u>	PROJECT NUMBER: <u>Job No. 191008-001</u>
PHONE # <u>(804) 358-8295</u>	INVOICE PHONE # <u>(844) 727-2468</u>	P.O. #
FAX # <u>(804) 358-4382</u>	EMAIL: <u>janew@joyceeng.com</u>	Pretreatment Program
Is sample for compliance reporting? YES NO	Is sample from a chlorinated supply? YES NO	PAS I.D. #
SAMPLER NAME (PRINT): <u>M. Adams</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: <u>18 Days</u>

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Distilled Material)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
											USE VOCs-2013 + polychlorinated biphenyls (POL)	Registries-2013 (POL)	Cadmium (POL)	Mercury (POL)	Nickel (POL)	Activity / Composite / NO2 Sulfide	Millars (POL)		Barite (POL) = (POL)
1) MW-10	X					4/16	07:00			1	X	X	X	X	X	X	X	
2) MW-1	X					4/16	07:00			1	X	X	X	X	X	X	X	
3) MW-2	X					4/16	07:00			1	X	X	X	X	X	X	X	
4) C.L.F-1	X					4/16	07:00			1	X	X	X	X	X	X	X	
5) MW-1	X					4/16	07:00			1	X	X	X	X	X	X	X	
6) MW-5	X					4/16	07:00			1	X	X	X	X	X	X	X	
7) MW-16	X					4/16	07:00			1	X	X	X	X	X	X	X	
8) MW-10	X					4/16	07:00			1	X	X	X	X	X	X	X	
9) MW-16	X					4/16	07:00			1	X	X	X	X	X	X	X	
10) C.W-16	X					4/16	07:00			1	X	X	X	X	X	X	X	

LAB USE ONLY	COOLER TEMP <u>4.2</u> °C
RECEIVED: <u>[Signature]</u> DATE: <u>4/16/13</u> RECEIVED: <u>[Signature]</u> DATE: <u>4/16/13</u> RECEIVED: <u>[Signature]</u> DATE: <u>4/16/13</u> RECEIVED: <u>[Signature]</u> DATE: <u>4/16/13</u>	QC Data Package <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

LaBella Associates, 19D0161
 Laurel Valley Corrective Action We



1941 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 268-8288 PHONE
 (804)268-8287 FAX

Chain of Custody
 Form # 01531
 Rev. 1.0
 Effective Feb 14, 2014

CHAIN OF CUSTODY

PAGE 2 of 2

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: LYCBLF Corrective Action Well
CONTACT: Jeta White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Closed)
ADDRESS: 1804 Dandy Lane, Richmond, VA 23229	INVOICE ADDRESS: 18 Westover Blvd, Suite 101, Green, VA 23042	PROJECT NUMBER: Job No. 201305-0001
PHONE #: (804) 368-8288	INVOICE PHONE #: (840) 727-2468	P.O. #
FAX #: (804) 368-4282	EMAIL: Jeta@joyceeng.com	Pretreatment Program

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO

SAMPLER NAME (PRINT): *M. Johnson* SAMPLER SIGNATURE: *[Signature]* PWS ID #

Turn Around Time: **10 Days**

Media Codes: **01=Surface Water 02=Ground Water 03=Drinking Water 04=Surface Off-Route Area 05=Sludge (TSS)**

CLIENT SAMPLE ID	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
										Asbestos (HCL)	Barium (HCL)	Cadmium (HNO3)	Mercury (HNO3)	Nickel (HNO3)	Ammonia / Carbide / HCL Buffer	Methane (HCL)		Sulfide (HNO3 + ZnAc)
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

RECEIVED: <i>[Signature]</i> DATE: 5/15/19 RECEIVED: <i>[Signature]</i> DATE: 5/15/19 RECEIVED: <i>[Signature]</i> DATE: 5/15/19	QC Data Package Item 1 <input type="checkbox"/> Item 2 <input type="checkbox"/> Item 3 <input type="checkbox"/> Item 4 <input type="checkbox"/>	LAB USE ONLY LaBella Associates, 19D0161 Laurel Valley Corrective Action We Recd: 04/03/2019 Due: 04/17/2019
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LaBella Associates, 19D0161
 Laurel Valley Corrective Action We

Sample Preservation Log

Sample Preservation Log
 Form 1100
 Revised
 October 10, 2010
 Page 1 of 1

Order ID: _____
 Recd: 04/03/2019 Due: 04/17/2019

Date Performed: 4-3-19

Analyst Performing Check: CAF

Sample ID	Well	Metals		Cyanide		Sulfide		Ammonia		TKN	Flow Tot	NO ₂ -NO ₃		DO	Pesticides		SVOC		LW		Residual			
		As	Cd	Cu	Pb	Ag	Bi	Cr	Mn			Se	Sn		Co	Fe	Ni	Zn	Al	B	Ca	Mg	Na	K	Cl	SO_{4}
-01	B																							
	F																							
-02	A	✓																						
-03	A	✓																						
-04	A	✓																						
-05	A	✓																						
-06	A	✓																						
-07	A	✓																						
-08	A	✓																						
-09	A	✓																						
-10	A	✓																						
-11	A	✓																						
-12	A	✓																						
-13	A	✓																						
-14	D	✓																						

NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____

LW preserved baseline _____
 pH must be equal between 8.1 - 8.7
 Buffer Salt ID: _____
 IN NaOH ID: _____ ON NaOH: _____

Analyst Initials: _____



19720161

Sample Preservation Log

Sample No: _____

4-5-14

Sample Laboratory/Date: COT

Page 1 of 1

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status	Sample Notes	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo	Sample Photo
-14 A																		
-14 B																		
-15 A																		
-15 B																		
-16 A																		
-17 A																		
-17 B																		
-18 A																		
-18 B																		
-19 A																		
-19 B																		

Sample ID: _____ Sample Name: _____ Sample Type: _____
 Sample Location: _____ Sample Date: _____ Sample Time: _____
 Sample Status: _____ Sample Notes: _____
 Sample Photo: _____ Sample Photo: _____ Sample Photo: _____
 Sample Photo: _____ Sample Photo: _____ Sample Photo: _____

Conservation Department

Department of the Interior

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
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Date Issued: 4/16/2019 5:01:13PM

Sample Conditions Checklist

Sample Received at	4/16/19
Was area sampled isolated?	Yes
Were fumes from soil? If so, were they removed first?	No
Are the correct forms filled out completely and correctly?	Yes
Do all labels match copies with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits as required on box, and correctly labeled?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA8221, EPA8204, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but lab preservation may delay analysis.	Yes

For the Trip Blank see 19D0177-03. BAR 04/03/19 1518

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Laboratory Sample ID: 1909191-01

Client Sample ID: MW-08

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2100B-2014	20.0		5.0	5.0	1	mg/L
Chloride	01	EPH200.0 RL.1	1.9		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.344		0.110	0.150	1	mg/L
Nitrate-Nitrite as N	01	SM22 4500-NO3-NO2-2005	0.34		0.10	0.10	1	mg/L

Laboratory Sample ID: 1909191-02

Client Sample ID: MW-5

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	02	SW610C	98.2		2.0	4.0	1	ug/L
1,3-Dichlorobenzene	02	SW610B	0.40	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW610B	10.8		0.40	1.00	1	ug/L
Acetone	02	SW610B	47.1		7.00	10.0	1	ug/L
Benzene	02	SW610B	1.79		0.40	1.00	1	ug/L
Chlorobenzene	02	SW610B	4.80		0.40	1.00	1	ug/L
cis-1,3-Dichloroethylene	02	SW610B	3.12		0.40	1.00	1	ug/L

Laboratory Sample ID: 1909191-03

Client Sample ID: MW-11

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	03	SW610C	137		2.0	4.0	1	ug/L
1,4-Dichlorobenzene	03	SW610B	0.99	J	0.40	1.00	1	ug/L
Acetone	03	SW610B	19.7		7.00	10.0	1	ug/L
Benzene	03	SW610B	0.68	J	0.40	1.00	1	ug/L
Chlorobenzene	03	SW610B	4.08		0.40	1.00	1	ug/L
Chloroethane	03	SW610B	0.80	J	0.70	1.00	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-04 Client Sample ID: CLF-1

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	04	SM4511C	98.2		2.0	4.0	1	ug/L
1,1-Dichloroethane	04	SM8200B	1.02		0.40	1.00	1	ug/L
1,2-Dichloroethane	04	SM8200B	4.82		0.40	1.00	1	ug/L
Benzene	04	SM8200B	1.15		0.40	1.00	1	ug/L
Chloroform	04	SM8200B	4.15		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SM8200B	2.77		0.40	1.00	1	ug/L
Trichloroethylene	04	SM8200B	0.65	J	0.40	1.00	1	ug/L

Laboratory Sample ID: 1908181-05 Client Sample ID: WFN-3

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	05	SM4511C	4.6		2.0	4.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1909161-07

Client Sample ID: MW-1C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Colist	07	SW6210C	36.5		2.0	4.0	1	ug/L
1,1-Dichloroethane	07	SW8200B	16.6		0.40	1.00	1	ug/L
1,2-Dichloroethane	07	SW8200B	1.04		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW8200B	4.82		0.40	1.00	1	ug/L
Benzene	07	SW8200B	1.12		0.40	1.00	1	ug/L
Chlorobenzene	07	SW8200B	1.88		0.40	1.00	1	ug/L
Chloroethane	07	SW8200B	3.31		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8200B	21.6		0.40	1.00	1	ug/L
trans-1,2-Dichloroethylene	07	SW8200B	0.70	J	0.60	1.00	1	ug/L
Trichloroethylene	07	SW8200B	1.21		0.40	1.00	1	ug/L
Vinyl chloride	07	SW8200B	4.82		0.50	0.50	1	ug/L

Laboratory Sample ID: 1909161-08

Client Sample ID: MW-1D

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Colist	08	SW6210C	17.2		2.0	4.0	1	ug/L
1,1-Dichloroethane	08	SW8200B	0.71	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW8200B	3.62		0.40	1.00	1	ug/L
Benzene	08	SW8200B	0.57	J	0.40	1.00	1	ug/L
Chlorobenzene	08	SW8200B	1.31		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW8200B	8.94		0.40	1.00	1	ug/L
Vinyl chloride	08	SW8200B	2.17		0.50	0.50	1	ug/L

Analysis Detecta Report

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 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808101-09 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	09	SW8260B	3.08		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	09	SW8260B	4.31		0.40	1.00	1	ug/L
Benzene	09	SW8260B	1.49		0.40	1.00	1	ug/L
Chlorobenzene	09	SW8260B	1.41		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	09	SW8260B	32.0		0.40	1.00	1	ug/L
Trichloroethylene	09	SW8260B	3.68		0.40	1.00	1	ug/L
Vinyl chloride	09	SW8260B	4.88		0.50	0.50	1	ug/L

Laboratory Sample ID: 1808101-10 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	10	SW8260B	1.95		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	10	SW8260B	0.55	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	10	SW8260B	13.2		0.40	1.00	1	ug/L
Trichloroethylene	10	SW8260B	1.48		0.40	1.00	1	ug/L
Vinyl chloride	10	SW8260B	0.55		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908101-11 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	11	SW8260B	4.39		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260B	1.45		0.40	1.00	1	ug/L
Benzene	11	SW8260B	1.01		0.40	1.00	1	ug/L
Chlorobenzene	11	SW8260B	0.54	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260B	19.4		0.40	1.00	1	ug/L
Trichloroethylene	11	SW8260B	2.74		0.40	1.00	1	ug/L
Vinyl chloride	11	SW8260B	3.54		0.50	0.50	1	ug/L

Laboratory Sample ID: 1908101-12 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	12	SW8260B	2.88		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260B	0.73	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260B	15.4		0.40	1.00	1	ug/L
Trichloroethylene	12	SW8260B	2.45		0.40	1.00	1	ug/L

Laboratory Sample ID: 1908101-14 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,4-Dichlorobenzene	14	SW8260B	5.72	J	0.40	1.00	1	ug/L
Benzene	14	SW8260B	1.43		0.40	1.00	1	ug/L
Chlorobenzene	14	SW8260B	5.39		0.40	1.00	1	ug/L
Methane	14P&T	POC175M	2299		14.5	25.0	1	ug/L
Alkalinity	14	SM212206-2011	212		5.0	5.0	1	mg/L
Chloride	14	SP4300.0 R2.1	16.0		0.5	1.0	1	mg/L
Sulfate	14	SP4300.0 R2.1	7.4		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808181-18 Client Sample ID: CLF-11A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	18	SW8260B	4.44		0.60	1.00	1	ug/L
cis-1,2-Dichloroethylene	18	SW8260B	14.3		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	6.19		0.40	1.00	1	ug/L
Methane	18	MSL17M	443		2.9	5.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	136		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	98.3		0.5	1.0	1	mg/L
Sulfate	18	EPA800.0-R2-1	81.4		0.5	1.0	1	mg/L

Laboratory Sample ID: 1808181-18 Client Sample ID: PZ-4C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	18	SW1717A	3.73		0.30	0.30	1	ug/L
cis-1,2-Dichloroethane	18	SW8260B	1.08		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	0.08	J	0.40	1.00	1	ug/L
Vinyl chloride	18	SW8260B	0.87		0.50	0.50	1	ug/L
Methane	18	MSL17M	3580		14.5	35.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	26.0		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	1.5		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-17

Client Sample ID: CLF-83

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DR Factor	Units
1,1-Dichloroethane	17	EPA8260B	0.64	J	0.60	1.00	1	ug/L
Ammonia	17	SM21 2008-2011	92.0		8.0	8.0	1	mg/L
Chloride	17	EPA800.0 R2.1	4.3		0.0	1.0	1	mg/L
Nitrate as N	17	Calc.	0.291		0.10	0.10	1	mg/L
Nitrate-Nitrite as N	17	SM22 4300-N/201-2018	0.23		0.10	0.10	1	mg/L
Sulfate	17	EPA800.0 R2.1	51.8		8.0	1.0	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-6200 Fax: (804) 298-6207

Certificate of Analysis

Final Report

Laboratory Order ID 1900161

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 3, 2019 13:52
Date Issued: April 16, 2019 17:01
Project Number: 2181900.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/03/2019 13:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mishra
Lab Director/Quality Assurance Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as required by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	19D0161-01	Ground Water	04/03/2019 07:55	04/03/2019 13:52
MW-6	19D0161-02	Ground Water	04/02/2019 09:40	04/03/2019 13:52
MW-X1	19D0161-03	Ground Water	04/02/2019 09:20	04/03/2019 13:52
CLF-1	19D0161-04	Ground Water	04/02/2019 10:05	04/03/2019 13:52
MW-3	19D0161-05	Ground Water	04/02/2019 10:20	04/03/2019 13:52
MW-5	19D0161-06	Ground Water	04/02/2019 09:00	04/03/2019 13:52
MW-10	19D0161-07	Ground Water	04/02/2019 08:35	04/03/2019 13:52
MW-10	19D0161-08	Ground Water	04/02/2019 10:25	04/03/2019 13:52
MW-12	19D0161-09	Ground Water	04/02/2019 10:30	04/03/2019 13:52
MW-17	19D0161-10	Ground Water	04/02/2019 07:25	04/03/2019 13:52
MW-10	19D0161-11	Ground Water	04/02/2019 10:40	04/03/2019 13:52
MW-14	19D0161-12	Ground Water	04/02/2019 07:35	04/03/2019 13:52
MW-11	19D0161-13	Ground Water	04/02/2019 07:40	04/03/2019 13:52
MW-12	19D0161-14	Ground Water	04/02/2019 08:00	04/03/2019 13:52
CLF-15A	19D0161-15	Ground Water	04/02/2019 08:40	04/03/2019 13:52
FZ-4E	19D0161-16	Ground Water	04/02/2019 08:00	04/03/2019 13:52
CLF-50	19D0161-17	Ground Water	04/02/2019 08:20	04/03/2019 13:52
MW-X20	19D0161-18	Ground Water	04/02/2019 08:15	04/03/2019 13:52
CLF-8T	19D0161-19	Ground Water	04/02/2019 08:30	04/03/2019 13:52

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909181-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-6	85617PM	04/15/2019 10:18	04/15/2019 10:17	BLOD		0.9	0.8	1	mg/L	PHM
Sum Analytes (Sum)	01	113 %	75-130	04/15/2019 10:17	04/15/2019 10:17							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 23209-001	04/15/2019 13:05	04/15/2019 13:10	20.0		0.5	0.5	1	mg/L	TMB
Chloride	01	10387-00-8	819100.0 R2.1	04/08/2019 16:25	04/08/2019 16:25	1.9		0.5	1.0	1	mg/L	BG
Nitrate as N	01	14797-85-8	Calc	04/11/2019 14:28	04/11/2019 14:27	0.344		0.110	0.150	1	mg/L	PHM
Nitrate/Nitrite as N	01	NA	SM22 41004403F- 2011	04/11/2019 14:28	04/11/2019 14:27	0.34		0.10	0.10	1	mg/L	RLM
Nitrite as N	01	14797-85-0	SM22 41004403F- 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	01	14808-79-8	819100.0 R2.1	04/08/2019 16:25	04/08/2019 16:25	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	01	19805-25-8	8191218	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **190919-02**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	02	7440-50-9	SW8210C	04/04/2019 17:00	04/05/2019 16:33	BLD		2.0	4.0	1	ug/L	SKL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethane	02	71-98-6	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	02	75-34-6	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	02	75-05-5	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	75-34-3	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	84-74-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	95-50-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	107-06-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dichloropropane	02	78-87-6	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/05/2019 12:08	04/05/2019 12:08	10.8		0.40	1.00	1	ug/L	KCB
2,2,4,4-Tetrachloroethane (MTC)	02	76-01-3	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	5.00	1	ug/L	KCB
1-Halopropane (MTC)	02	894-76-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		2.00	8.00	1	ug/L	KCB
4-Methyl-1-pentane (MTC)	02	109-10-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.80	8.00	1	ug/L	KCB
Acetone	02	67-64-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	47.1		7.00	10.0	1	ug/L	KCB
Acrylonitrile	02	107-13-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.70	8.00	1	ug/L	KCB
Benzene	02	71-43-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	1.75		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-5	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	02	75-27-4	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	02	75-25-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
Bromomethane	02	74-83-9	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
Carbon disulfide	02	75-15-0	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	10.0	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809161-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	54-29-5	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
Chlorobenzene	02	108-90-7	SW82600	04/08/2019 12:08	04/08/2019 12:08	4.80		0.40	1.00	1	ug/L	RC9
Chloroethane	02	75-00-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.75	1.00	1	ug/L	RC9
Chloroform	02	67-68-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	RC9
Chloroethene	02	74-87-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
cis-1,2-Dichloroethylene	02	156-54-2	SW82600	04/08/2019 12:08	04/08/2019 12:08	1.12		0.40	1.00	1	ug/L	RC9
cis-1,2-Dichloropropene	02	10201-47-0	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
Dibromochloromethane	02	129-48-1	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.25	0.50	1	ug/L	RC9
Dibromomethane	02	74-93-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Dichlorodifluoromethane	02	75-71-8	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.35	1.00	1	ug/L	RC9
Ethylbenzene	02	100-41-4	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Hexamethane	02	74-82-4	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		1.20	10.0	1	ug/L	RC9
m,p-Xylenes	02	119601-26	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	2.00	1	ug/L	RC9
1												
Methylene chloride	02	75-09-2	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	4.00	1	ug/L	RC9
Heptachlorene	02	81-20-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
n-Heptane	02	95-47-6	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Styrene	02	100-42-5	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Tetrachloroethylene (PCE)	02	127-18-4	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Toluene	02	108-88-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
trans-1,2-Dichloroethylene	02	106-66-3	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.60	1.00	1	ug/L	RC9
trans-1,2-Dichloropropene	02	10201-02-8	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
trans-1,4-Dichloro-2-butene	02	110-67-8	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	4.00	1	ug/L	RC9
Trichloroethylene	02	79-01-6	SW82600	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909181-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Toluene/Benzene	02	75-65-4	SW8200B	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW8200B	04/08/2019 12:08	04/08/2019 12:08	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8200B	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	KCS
Ethene, Total	02	1330-20-1	SW8200B	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	0.00	1	ug/L	KCS
Sum: 1,4-Dichlorobenzene (Sum)	02	79-11-8	79-120	04/08/2019 12:08	04/08/2019 12:08							
Sum: 4-Bromobenzonitrile (Sum)	02	95-8-2	75-120	04/08/2019 12:08	04/08/2019 12:08							
Sum: Dichlorobenzonitrile (Sum)	02	94-3-3	75-130	04/08/2019 12:08	04/08/2019 12:08							
Sum: Triclorobenz (Sum)	02	85-43-8	75-130	04/08/2019 12:08	04/08/2019 12:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-21

Laboratory Sample ID: 1806181-43

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	01	7440-48-4	8260/1631	04/04/2019 17:30	04/05/2019 15:40	137		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	630-20-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	79-34-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	79-38-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	95-18-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	107-06-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropene	00	78-87-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	00	106-46-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.59	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	00	78-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		3.00	5.00	1	ug/L	KCS
2-Propanone (MIBK)	00	99-179-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	00	106-10-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.50	5.00	1	ug/L	KCS
Axetone	00	67-66-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	15.7		7.00	10.0	1	ug/L	KCS
Arylene	00	107-13-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	00	71-43-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.68	J	0.40	1.00	1	ug/L	KCS
Bromochloroethane	00	74-87-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	00	79-27-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluorane	00	79-23-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Bromocyclohexane	00	74-85-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	00	75-15-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	00	56-23-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	00	108-90-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	4.88		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-21**

Laboratory Sample ID: **1909161-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00	J	0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	0.80	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	01	156-69-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10001-09-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	13466-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.85	1.00	1	ug/L	KCS
Difluoroethane	01	103-41-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Difluoromethane	01	74-88-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		1.70	10.0	1	ug/L	KCS
o,p'-DDE	01	178601-05	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	01	75-09-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		3.00	4.00	1	ug/L	KCS
Perchloroethane	01	61-26-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
p-Fluoro	01	85-47-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10001-03-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-97-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		1.80	8.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	79-09-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-X1

Laboratory Sample ID: 1909161-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	01	75-01-4	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		0.50	0.50	1	ug/L	KCS
Ethene, Total	02	1330-20-7	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		1.00	0.50	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d1 (Sum)	03		70-130	04/08/2019 12:52	04/08/2019 12:52							
Sum: 4-Dibromofluorobenzene (Sum)	01		70-130	04/08/2019 12:52	04/08/2019 12:52							
Sum: Dibromofluorobenzene (Sum)	02		70-130	04/08/2019 12:52	04/08/2019 12:52							
Sum: Toluene-d8 (Sum)	03		70-130	04/08/2019 12:52	04/08/2019 12:52							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	04	7440-48-4	8260/1631	04/04/2019 17:30	04/05/2019 15:40	19.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	630-20-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-68-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	79-34-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-70-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-19-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	85-53-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	107-06-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.80		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	04	78-92-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	04	99-10-9	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	106-16-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.50	5.00	1	ug/L	KCS
Acetone	04	63-08-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	04	107-13-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.70	3.00	1	ug/L	KCS
Benzene	04	71-43-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.10		0.50	1.00	1	ug/L	KCS
Bromochloromethane	04	74-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	04	75-23-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.10		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-05-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	04	156-59-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	3.77		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	04	13466-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-93-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.65	1.00	1	ug/L	KCS
Dichloroethane	04	107-11-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Dibromoethane	04	74-98-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	04	17860-25-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
n-Pentane	04	94-47-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Hexane	04	100-82-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-67-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		1.80	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	0.85	J	0.40	1.00	1	ug/L	KCS
Tetrachloromethane	04	75-68-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	8265000	04082019 13:14	04082019 13:14	BLDD		0.50	0.50	1	ug/L	KCS
Ethene, Total	04	1330-20-7	8265000	04082019 13:14	04082019 13:14	BLDD		1.00	1.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d (Sum)	04	100 %	70-130	04082019 13:14	04082019 13:14							
Sum: 4-Dimethylaminopyrene (Sum)	04	66.3 %	70-130	04082019 13:14	04082019 13:14							
Sum: Ethionchloroethene (Sum)	04	99.8 %	70-130	04082019 13:14	04082019 13:14							
Sum: Toluene-d0 (Sum)	04	101 %	70-130	04082019 13:14	04082019 13:14							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1809181-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1600 Series Methods												
Cadmium	03	7440-48-4	8260/1600	04/04/2019 17:30	04/05/2019 15:52	4.8		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909191-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-68-8	SW82000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	78-34-3	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	78-36-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	95-18-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	107-06-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	78-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	75-56-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.00	0.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	531-78-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		2.20	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	05	109-10-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	3.00	1	ug/L	KCS
Acetone	05	67-64-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	05	79-25-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	05	75-16-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	50.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909181-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10001-01-0	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-49-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.55	1.00	1	ug/L	KCS
Dibutylene	08	133-41-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Dibromethane	08	78-88-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-27	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-3	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	08	156-65-1	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10001-03-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-88-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	0.80	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1909181-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	05	1330-20-7	SW8260B	04/08/2019 13:37	04/08/2019 13:37	BLDD		1.00	3.00	1	ug/L	MS
Sum: 1,2-Dichloroethane-04 (Sum)	05	107-06-6	70-130	04/08/2019 13:37	04/08/2019 13:37							
Sum: 1,1-Dichloroethane-04 (Sum)	05	75-34-8	70-130	04/08/2019 13:37	04/08/2019 13:37							
Sum: 1,1,1-Trichloroethane-04 (Sum)	05	70-133-7	70-130	04/08/2019 13:37	04/08/2019 13:37							
Sum: 1,1,2-Trichloroethane-04 (Sum)	05	70-130-8	70-130	04/08/2019 13:37	04/08/2019 13:37							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1909161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	08	75005-6	8260/1631	04/04/2019 17:30	04/05/2019 16:54	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-5

Laboratory Sample ID: 1909181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-68-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	79-34-3	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	79-38-4	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	08	95-18-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	08	107-06-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	78-87-5	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	08	75-93-3	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	534-78-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	5.00	1	ug/L	KCS
Acetone	08	67-63-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	08	74-97-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	08	79-25-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	08	75-18-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **1909191-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10001-01-0	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-48-1	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-33	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	08	127-18-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	08	156-65-1	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10001-02-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	71-68-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-5

Laboratory Sample ID: 1809161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1517-25-1	SW8260B	04/08/2019 13:59	04/08/2019 13:59	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: 1,1-Dibromoethane (Sum)	08	95.9 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: 1,1-Dibromoethene (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: Toluene (Sum)	08	94.8 %	75-130	04/08/2019 13:59	04/08/2019 13:59							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	07	7440-48-4	8260/1631	04/04/2019 17:30	04/05/2019 15:56	16.5		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809181-07**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	630-20-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethene	07	71-68-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.60	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	07	79-34-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	07	79-00-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	07	79-34-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	07	71-35-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,2,2-Trichloropropane	07	88-19-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichloropropane	07	85-53-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,3-Dichloroethane	07	107-08-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,3-Dichloropropene	07	78-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.04		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	07	106-46-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	4.82		0.40	1.00	1	ug/L	KCB
2-Methoxy (MEX)	07	78-27-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	5.00	1	ug/L	KCB
2-Propanone (MEK)	07	69-17-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		2.20	5.00	1	ug/L	KCB
4-Methyl-2-pentanone (MIBK)	07	106-10-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	5.00	1	ug/L	KCB
Acetone	07	67-64-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		7.50	10.0	1	ug/L	KCB
Arylene	07	107-13-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	5.00	1	ug/L	KCB
Benzene	07	71-42-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.11		0.40	1.00	1	ug/L	KCB
Bromochloromethane	07	74-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Bromodichloromethane	07	75-27-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	07	75-25-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	07	74-83-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Carbon disulfide	07	75-15-0	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	10.0	1	ug/L	KCB
Carbon tetrachloride	07	56-23-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Chlorobenzene	07	108-90-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.89		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	07	75-05-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	3.91		0.70	1.00	1	ug/L	KCS
Chloroform	07	67-68-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	0.80	1	ug/L	KCS
Chloromethane	07	74-87-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	07	156-69-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	31.8		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	1001-14-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	07	13466-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	0.50	1	ug/L	KCS
Dibromomethane	07	74-93-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	79-71-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
Ethylacetylene	07	103-41-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Isobutylene	07	74-99-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	07	119601-25	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	2.00	1	ug/L	KCS
Methylacetylene	07	75-06-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Quene	07	100-42-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PFE)	07	127-18-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	07	156-60-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	0.70	J	0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	1001-02-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-67-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.21		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	79-89-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	4.82		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909161-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	07	1330-20-7	SM5000	04/09/2019 14:21	04/09/2019 14:21	BL00		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	07	104	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: 1,1-Dichloroethane (Sum)	07	87-2	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: Ethylchloride (Sum)	07	107	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: Toluene (Sum)	07	98-8	%	75-130	04/09/2019 14:21	04/09/2019 14:21						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	08	7440-48-4	8000-100	04/04/2019 17:30	04/05/2019 16:58	17.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-55-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
1,4-Dichloroethane	08	78-24-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.71	J	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	08	88-19-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	85-53-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	107-06-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	78-67-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	3.82		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	78-92-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	99-10-9	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	106-10-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	08	107-13-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	3.00	1	ug/L	KCS
Benzene	08	71-42-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.07	J	0.30	1.00	1	ug/L	KCS
Bromochloroethane	08	74-87-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	08	79-27-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.50	1	ug/L	KCS
Bromofuran	08	79-23-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Bromocyclohexane	08	74-83-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	58-23-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	1.31		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809161-08**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-59-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10021-04-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	13468-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	08	74-93-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	08	105-41-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Hexachloroethane	08	74-88-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylene	08	178201-25	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	2.00	1	ug/L	KCS
		1										
Methylene chloride	08	75-09-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	6.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10021-02-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.00	6.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	2.37		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Hydroc. Total	08	1333-20-1	SW826008	04/08/2019 14:44	04/08/2019 14:44	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	08	107-06-6	70-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: 1,1-Dichloroethane (Sum)	08	75-34-8	70-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: Ethylchloride (Sum)	08	75-00-2	70-130	04/08/2019 14:44	04/08/2019 14:44							
Sum: Toluene (Sum)	08	95-03-2	70-130	04/08/2019 14:44	04/08/2019 14:44							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1909181-09

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	09	75005-64-4	8060-100	04/04/2019 17:30	04/05/2019 16:01	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1809181-09**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	09	630-20-8	SW82009	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	09	71-68-8	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	09	79-34-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW82005	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	78-34-3	SW82006	04/08/2019 15:00	04/08/2019 15:00	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW82003	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	09	88-19-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	85-53-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	09	107-06-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	09	78-37-5	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW82000	04/08/2019 15:00	04/08/2019 15:00	4.31		0.40	1.00	1	ug/L	KCS
2-Heptanone (MIX)	09	78-59-2	SW82009	04/08/2019 15:00	04/08/2019 15:00	BL00		3.00	5.00	1	ug/L	KCS
2-Heptanone (MIX)	09	99-19-9	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	09	109-10-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.50	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	09	107-13-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.70	3.00	1	ug/L	KCS
Benzene	09	71-43-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	1.48		0.50	1.00	1	ug/L	KCS
Bromochloroethane	09	74-87-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	09	75-27-4	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.50	1	ug/L	KCS
Bromofluorobenzene	09	75-23-2	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethene	09	74-85-6	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.80	10.0	1	ug/L	KCS
Carbon tetrachloride	09	56-23-5	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	09	108-90-7	SW82000	04/08/2019 15:00	04/08/2019 15:00	1.41		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1909161-09**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-03-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	09	156-59-2	SW82609	04/08/2019 15:00	04/08/2019 15:00	ND		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10021-04-8	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
Dibromodichloroethane	09	13466-1	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	09	74-93-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Hexachlorocyclopentadiene	09	74-88-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	09	178621-29	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	09	75-09-2	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-8	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	09	100-42-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	09	108-88-2	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-3	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10021-03-8	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-87-8	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	09	79-07-6	SW82609	04/08/2019 15:00	04/08/2019 15:00	3.68		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	79-09-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW82609	04/08/2019 15:00	04/08/2019 15:00	0.88		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1806181-09

Parameter	Entry ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	09	1320-25-7	SW82609	04/08/2019 15:08	04/08/2019 15:08	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	09	100 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: 1,1-Dichloroethane (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: Ethoxyethane (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							
Sum: Toluene (Sum)	09	99.9 %	75-130	04/08/2019 15:08	04/08/2019 15:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	18	75005-6	8000-100	04/04/2019 17:30	04/05/2019 16:03	BL00		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	10	630-20-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-68-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	10	79-34-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
1,4-Dichloroethane	10	78-24-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	10	80-18-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	85-53-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	10	107-08-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	78-87-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-46-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	0.58	J	0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	10	78-50-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	10	99-10-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	109-10-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.50	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	10	107-13-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	10	78-25-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	10	74-83-6	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	58-23-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	10	108-90-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-03-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	10	156-59-2	SW82600	04/08/2019 15:28	04/08/2019 15:28	FLJ		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10001-04-8	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	10	13466-1	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	10	74-93-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	10	74-88-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	10	17800-25-1	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	10	75-09-2	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	10	95-47-8	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	10	100-42-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	10	108-88-2	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-3	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10001-03-8	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	110-87-8	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	10	79-07-6	SW82600	04/08/2019 15:28	04/08/2019 15:28	LAB		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	72-69-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	10	75-01-4	SW82600	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	10	1330-20-7	SW82608	04/08/2019 15:28	04/08/2019 15:28	BLDD		1.00	3.60	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	10	67-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 1,1-Dichloroethane-d4 (Sum)	10	67-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 1,1,1-Trichloroethane-d4 (Sum)	10	67-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 1,1,2-Trichloroethane-d4 (Sum)	10	67-73-6	70-130	04/08/2019 15:28	04/08/2019 15:28							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	11	75930-64	8060100	04/04/2019 17:30	04/05/2019 16:08	BL00		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **190919-11**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	11	630-20-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	11	71-55-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	11	79-34-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Difluoroethane	11	79-20-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	11	79-34-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	4.38		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	11	75-35-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	11	88-19-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	11	85-53-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	11	107-06-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	11	79-34-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	11	106-46-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.48		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIX)	11	78-92-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
2-Hexanone (MIX)	11	98-11-9	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	11	106-16-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	5.00	1	ug/L	KCS
Acetone	11	67-64-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		7.50	10.0	1	ug/L	KCS
Arylene	11	107-13-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.70	3.00	1	ug/L	KCS
Benzene	11	71-43-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.01		0.50	1.00	1	ug/L	KCS
Bromochloroethane	11	74-87-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	11	79-27-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoride	11	79-23-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	11	74-87-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	11	75-15-0	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	11	58-23-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	11	108-90-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	0.54	J	0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1909181-11**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	11	67-66-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	11	74-87-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	11	156-59-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	18.4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	11	10001-04-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	11	106466-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	11	75-95-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	11	75-71-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	11	105-41-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	11	74-88-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	11	178001-25	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	11	75-09-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	11	95-47-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	11	105-65-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PCE)	11	127-18-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	11	108-88-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	11	156-60-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	11	10021-02-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	11	110-87-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	11	79-07-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	2.74		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	11	79-09-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	11	108-05-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	11	75-01-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.54		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	11	1515-20-1	SW8260B	04/08/2019 15:50	04/08/2019 15:50	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	11	68-12-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 4-Bromofluorobenzene (Sum)	11	83-6-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 2-Bromoethanol (Sum)	11	100-0-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: Toluene-d8 (Sum)	11	87-8-0	75-130	04/08/2019 15:50	04/08/2019 15:50							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1809181-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Unit	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	12	75005-6	8260-1631	04/04/2019 17:30	04/05/2019 16:11	BLD		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **190919-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	12	600-20-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-68-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	12	79-34-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	12	79-00-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	12	79-34-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	12	75-35-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	12	88-19-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	85-53-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	12	107-08-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	79-67-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	12	106-46-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	0.73	J	0.40	1.00	1	ug/L	KCS
2-Pentanone (MIX)	12	78-28-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIX)	12	99-10-9	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	12	109-10-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.50	5.00	1	ug/L	KCS
Acetone	12	63-08-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	12	107-13-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.70	3.00	1	ug/L	KCS
Benzene	12	71-43-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
Bromochloromethane	12	74-97-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	12	75-27-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	12	79-25-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	12	74-83-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	12	75-15-0	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	12	58-23-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	12	106-90-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **1809181-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-05-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	12	74-87-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	12	156-59-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	PL4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	12	10021-04-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	12	10648-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	12	74-93-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	12	75-71-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	12	100-41-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	12	74-88-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	12	106-42-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	12	75-09-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	12	95-47-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	12	100-42-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PCE)	12	127-18-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	12	108-88-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	12	156-60-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	12	10021-03-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	12	115-87-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	12	79-07-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	2-85		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	12	79-09-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	12	108-05-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	12	75-01-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 190919-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	12	1330-20-7	SW8260B	04/09/2019 16:12	04/09/2019 16:12	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	12		75-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1-Dichloroethane (Sum)	12		75-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1,1-Trichloroethane (Sum)	12		75-130	04/09/2019 16:12	04/09/2019 16:12							
Sum: 1,1,2-Trichloroethane (Sum)	12		75-130	04/09/2019 16:12	04/09/2019 16:12							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1809181-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	11	7440-50-6	8060100	04/04/2019 17:30	04/05/2019 16:17	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **190919-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	11	630-20-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-68-8	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	13	79-34-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	78-34-3	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	16	78-36-4	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	95-18-4	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	107-06-2	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	20	78-87-5	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	21	106-46-7	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	22	75-55-5	SW82009	04/08/2019 16:34	04/08/2019 16:34	BL00		0.50	0.50	1	ug/L	KCS
2-Pentanone (MEX)	23	531-78-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		2.20	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	24	109-10-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.50	3.00	1	ug/L	KCS
Acetone	25	67-66-1	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	26	107-13-1	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.70	3.00	1	ug/L	KCS
Benzene	27	71-40-2	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	28	74-97-8	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloroethane	29	75-27-4	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	0.80	1	ug/L	KCS
Bromofane	30	79-25-2	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	31	74-83-9	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	32	75-18-5	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	33	56-23-5	SW82000	04/08/2019 16:34	04/08/2019 16:34	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	34	108-90-7	SW82008	04/08/2019 16:34	04/08/2019 16:34	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **1909181-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	13	74-87-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-69-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	16	10061-01-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	20	100-91-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	21	78-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	22	17961-17-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	23	75-09-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	24	95-47-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Styrene	25	106-42-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	26	127-18-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Toluene	27	108-88-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	28	156-65-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	29	10061-02-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	30	193-87-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	31	79-01-6	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	32	76-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	33	108-05-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	34	75-01-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	0.80	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1909191-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	11	15.00-20.7	SW826008	04/09/2019 16:34	04/09/2019 16:34	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	11	107 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: 1,1-Dichloroethane-04 (Sum)	11	95.2 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: Ethylchloroformate (Sum)	11	100 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: Toluene-08 (Sum)	11	94.3 %	79-120	04/09/2019 16:34	04/09/2019 16:34							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-32

Laboratory Sample ID: 1909161-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	14	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:28	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **190919-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	14	630-20-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	14	71-65-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	14	79-34-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	14	78-24-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	14	78-36-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	14	95-19-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	14	95-50-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	14	107-06-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	14	78-87-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	14	106-46-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	0.72	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	14	78-93-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		3.00	5.00	1	ug/L	KCS
2-Butanone (MEK)	14	99-178-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	14	106-10-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	14	67-66-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	14	107-13-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	14	71-43-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	1.43		0.40	1.00	1	ug/L	KCS
Bromochloroethane	14	74-97-0	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	14	75-27-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluorobenzene	14	78-25-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
Bromobenzene	14	74-83-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.60	1.00	1	ug/L	KCS
Carbon disulfide	14	75-15-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	14	56-23-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	14	108-90-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	5.38		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-X2

Laboratory Sample ID: 1909161-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	14	75-05-3	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	14	67-66-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	14	74-87-3	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	14	156-69-2	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	14	10061-01-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	14	124-48-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	0.80	1	ug/L	KCS
Dibromomethane	14	74-95-3	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	14	75-71-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	14	100-41-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	14	78-88-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	14	119601-25	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	14	75-09-2	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		3.80	4.00	1	ug/L	KCS
o-Xylene	14	95-47-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Styrene	14	106-42-3	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	14	127-18-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Toluene	14	108-88-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	14	156-65-1	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	14	10061-02-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	14	110-87-8	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		1.80	4.00	1	ug/L	KCS
Trichloroethylene	14	79-01-6	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	14	71-68-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	14	108-05-4	SW82005	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	14	75-01-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1909191-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Arynes, Total	14	1533-25-1	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	14	100 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: 1,1-Dichloroethane (Sum)	14	99.8 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: Ethoxyethoxyethane (Sum)	14	101 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: Toluene (Sum)	14	99.1 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Head Space Analysis by GC												
Methane	14821	74-82-8	MS175M	04/15/2019 11:34	04/15/2019 11:34	2290		14.5	25.0	1	ug/L	DFH
Sum Analytes (Sum)	14821	100 %	70-120	04/15/2019 11:34	04/15/2019 11:34							
Wet Chemistry Analysis												
Alkalinity	14	NA	SM21 2009-0511	04/15/2019 15:07	04/15/2019 15:15	212		5.0	5.0	1	mg/L	TMB
Chloride	14	16887-05-8	EPA300.0 M-1	04/05/2019 15:48	04/05/2019 15:47	15.0		0.5	1.0	1	mg/L	BC
Nitrate as N	14	14797-55-8	Calc.	04/11/2019 14:28	04/11/2019 14:27	BLOD		0.110	0.150	1	mg/L	PHM
Nitrate-Nitrite as N	14	NA	SM22 4000-NO3M 2011	04/10/2019 14:28	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	RLM
Nitrite as N	14	14797-55-8	SM22 4000-NO2M 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	14	14808-79-8	EPA300.0 M-1	04/05/2019 15:43	04/05/2019 15:47	7.4		0.5	1.0	1	mg/L	BC
Sulfide	14	16886-29-8	SW8215	04/08/2019 17:22	04/08/2019 17:22	BLOD		0.00	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	15	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:40	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	15	630-20-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	15	71-68-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	15	79-34-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	15	79-00-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	78-24-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	4.44		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	15	75-35-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	88-18-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	15	85-83-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	15	107-06-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	78-87-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	15	106-48-7	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	15	78-93-3	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	15	99-79-8	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	15	106-10-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.50	5.00	1	ug/L	KCS
Acetone	15	67-64-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	15	107-13-1	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.70	5.00	1	ug/L	KCS
Benzene	15	71-43-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	15	74-97-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	15	75-27-4	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	15	78-25-2	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	15	74-83-9	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	15	75-15-3	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	15	56-23-5	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.80	1.00	1	ug/L	KCS
Chlorobenzene	15	108-90-7	SW82000	04/08/2019 17:18	04/08/2019 17:18	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 190919-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-05-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	15	67-66-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	15	74-87-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-59-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	14.3		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	15	10021-04-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	15	13466-1	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	15	74-93-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	15	75-71-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	15	105-41-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	15	74-98-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	15	17960-09-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	15	75-09-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	15	95-47-6	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	15	100-02-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PFE)	15	127-18-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	15	108-88-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	15	156-60-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	15	10021-03-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	15	110-67-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	15	79-07-6	SW82000	04/08/2019 17:19	04/08/2019 17:19	6.19		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	15	72-69-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	15	108-05-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	15	75-01-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	15	1155-20-7	SW8260B	04/09/2019 17:19	04/09/2019 17:19	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	15	104 %	75-130	04/09/2019 17:19	04/09/2019 17:19							
Sum: 4-Bromofluorobenzene (Sum)	15	94.2 %	75-130	04/09/2019 17:19	04/09/2019 17:19							
Sum: 2-Bromoacetonitrile (Sum)	15	97.9 %	75-130	04/09/2019 17:19	04/09/2019 17:19							
Sum: Toluene-d8 (Sum)	15	99.1 %	75-130	04/09/2019 17:19	04/09/2019 17:19							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	15	74-82-6	MSM17MM	04/15/2019 10:42	04/15/2019 10:43	442		0.0	0.0	1	ug/L	CHS
Sum Analytes (Sum)	15		75-130	04/15/2019 10:43	04/15/2019 10:43							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	15	na	SM22 2520B-2011	04/15/2019 15:07	04/15/2019 15:18	100		0.0	0.0	1	mg/L	TMB
Chloride	15	68887-00-8	EPA300.0 82.1	04/08/2019 20:54	04/09/2019 20:54	88.3		0.5	1.0	1	mg/L	BG
Nitrate as N	15	14797-85-8	Com.	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.150	0.150	1	mg/L	PHM
Nitrosodichloro as N	15	na	SM22 4500-NO3-M 3011	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.10	0.10	1	mg/L	Row25
Nitrite as N	15	14797-85-8	SM22 4500-NO2-M 3011	04/04/2019 07:32	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	15	14808-79-8	EPA300.0 82.1	04/08/2019 20:54	04/08/2019 20:54	91.4		0.5	1.0	1	mg/L	BG
Sulfide	15	15428-25-8	SW6215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:47	0.23		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **PZ-4E**

Laboratory Sample ID: **1809161-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	18	630-20-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-68-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	95-18-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	107-06-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	78-87-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	18	75-56-5	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	531-78-8	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-87-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	18	79-25-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	18	75-16-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **PZ-4E**

Laboratory Sample ID: **1909161-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	18	156-59-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	1.80		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10021-04-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	10468-1	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	18	74-93-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Hexachloroethane	18	74-88-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	18	17860-10-5	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	2.00	1	ug/L	KCS
		1										
Methylene chloride	18	75-08-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		3.00	6.00	1	ug/L	KCS
o-Xylene	18	95-47-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	18	127-18-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	18	156-60-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10021-03-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-87-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.00	6.00	1	ug/L	KCS
Trichloroethylene	18	79-07-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.58	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	72-69-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.57		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1515-20-1	8963008	04082019 17:41	04082019 17:41	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 4-Bromofluorobenzene (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 2-Bromoacetonitrile (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: Toluene-d8 (Sum)	18		75-130	04082019 17:41	04082019 17:41							

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	18	74-82-6	MS/17PM	04/15/2019 10:58	04/15/2019 10:58	2560		12.0	25.0	1	µg/L	DFH
Sum Analytes (Sum)	18	100 %	75-100	04/15/2019 10:58	04/15/2019 10:58							

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	18	NA	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	25.2		0.0	0.0	1	mg/L	TMB
Chloride	18	98897-00-8	EPA300.0 R2.1	04/08/2019 21:18	04/08/2019 21:18	2.3		0.5	1.0	1	mg/L	BG
Nitrate as N	18	14797-65-8	Calc.	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.150	0.150	1	mg/L	PHM
Nitrate/nitrite as N	18	NA	SM22 4500-NO3F-2011	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	PHM
Nitrite as N	18	14797-65-0	SM22 4500-NO2B-2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	18	14808-79-9	EPA300.0 R2.1	04/08/2019 21:16	04/08/2019 21:16	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	18	18498-25-8	SW9215	04/08/2019 17:20	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	17	7439974	8214PSA	04/11/2019 08:50	04/11/2019 13:43	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	17	630-20-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	17	71-55-6	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	17	79-34-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	17	79-00-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	17	79-34-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	17	75-70-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	96-18-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	17	85-53-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	17	107-06-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	79-67-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	17	106-46-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	17	78-93-3	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	17	99-79-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	17	106-10-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.50	5.00	1	ug/L	KCS
Axetone	17	67-66-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	17	107-13-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	17	71-43-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	17	74-97-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	17	75-27-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	17	79-25-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	17	74-83-6	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	17	75-15-0	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	17	50-29-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	17	108-90-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 190919-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	17	75-05-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	17	67-66-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	17	74-87-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	17	156-59-2	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	17	10061-01-9	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	17	74-95-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	17	75-71-8	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	17	100-41-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	17	78-88-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	17	11961-27-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	17	75-09-2	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	17	95-47-8	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Styrene	17	100-42-5	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	17	127-18-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Toluene	17	108-88-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutylene	17	156-60-1	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	17	10061-03-8	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	17	110-87-8	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	17	79-01-6	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	17	71-68-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	17	108-05-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	17	75-01-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	17	1515-20-1	SW82608	04/08/2019 18:03	04/08/2019 18:03	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene-d4 (Sum)	17		75-130	04/08/2019 18:03	04/08/2019 18:03							
Sum: 1,1-Dibromoethene (Sum)	17		75-130	04/08/2019 18:03	04/08/2019 18:03							
Sum: 1,1-Dibromoethane (Sum)	17		75-130	04/08/2019 18:03	04/08/2019 18:03							
Sum: Toluene-d8 (Sum)	17		75-130	04/08/2019 18:03	04/08/2019 18:03							

Certificate of Analysis

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Client Sample ID: CLF-83

Laboratory Sample ID: 1809181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Lead Specie Analysis by GC												
Methane	17	74824	MS/17PM	04/15/2019 11:09	04/15/2019 11:09	BL00		0.9	5.0	1	ug/L	CHS
Sum Analytes (Sum)	17	74824	MS/17PM	04/15/2019 11:09	04/15/2019 11:09							

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909161-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	17	na	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	82.8		0.0	0.0	1	mg/L	TMB
Chloride	17	98897-00-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	4.3		0.5	1.0	1	mg/L	BG
Nitrate as N	17	14797-65-8	Celn.	04/11/2019 14:27	04/11/2019 14:27	0.221		0.150	0.150	1	mg/L	PHM
Nitrate+Nitrite as N	17	na	SM22 4500-NO3F- 2011	04/11/2019 14:27	04/11/2019 14:27	0.23		0.10	0.10	1	mg/L	PHM
Nitro as N	17	14797-65-0	SM22 4500-NO2B- 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	17	14808-79-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	51.9		0.5	1.0	1	mg/L	BG
Sulfide	17	18496-25-8	SW9215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 1909181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	847475A	04/11/2019 09:50	04/11/2019 13:40	BLDD		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 190919-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	18	630-20-8	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-68-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	95-18-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	107-06-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	78-87-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	18	75-35-3	SW82009	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	521-78-8	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	5.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-87-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	18	79-25-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	18	75-18-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-K20**

Laboratory Sample ID: **180919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	18	156-59-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10001-01-0	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	124-48-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	18	74-96-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Isobutene	18	78-88-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	18	119501-20	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	18	95-47-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	18	127-18-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	18	156-60-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10001-03-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-87-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	18	79-01-6	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	75-68-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 190919-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1515-25-1	SW8260B	04/09/2019 18:26	04/09/2019 18:26	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	18	106 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: 1,1-Dichloroethane-04 (Sum)	18	87.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Ethoxyethane-04 (Sum)	18	104 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Toluene-04 (Sum)	18	86.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-01

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	19	7439974	847475A	04/11/2019 08:50	04/11/2019 13:48	BLDG		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-01

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	19	630-20-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	19	71-68-8	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	19	79-34-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-00-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	19	79-34-3	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	19	79-34-4	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	19	95-18-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	19	95-50-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	107-06-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	19	79-87-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	19	106-46-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	19	75-55-5	SW82009	04/08/2019 18:48	04/08/2019 18:48	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	19	521-78-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	19	109-10-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	19	67-66-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	19	107-13-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	19	71-43-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	19	74-87-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloroethane	19	79-27-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluorobenzene	19	79-25-2	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	19	74-83-9	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	19	75-18-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	50.0	1	ug/L	KCS
Carbon tetrachloride	19	56-23-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	19	108-90-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	19	75-05-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.70	1.00	1	ug/L	KCS
Chloroform	19	67-66-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.50	0.50	1	ug/L	KCS
Chloromethane	19	74-87-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	19	156-59-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	19	10001-01-0	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	19	134-48-1	SW82000	04/09/2019 15:47	04/09/2019 15:48	BLDD		0.85	0.80	1	ug/L	KCS
Dibromomethane	19	74-95-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.55	1.00	1	ug/L	KCS
Ethylbenzene	19	100-41-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Isobutane	19	78-88-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		1.70	10.0	1	ug/L	KCS
m-p-Xylene	19	106-42-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	2.00	1	ug/L	KCS
Methylene chloride	19	75-09-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		3.00	4.00	1	ug/L	KCS
o-Xylene	19	95-47-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Styrene	19	106-42-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
tert-Butylbenzene (TBB)	19	127-18-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Toluene	19	108-88-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	19	156-55-1	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	19	10001-03-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	19	110-87-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	19	79-01-6	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	19	71-68-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	19	108-05-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	19	75-01-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BLDD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	19	1330-20-7	SW8260B	04/09/2019 18:48	04/09/2019 18:48	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,3-Dichlorobenzene-d4 (Sum)	19	95-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 1,3-Dibromobenzene-d4 (Sum)	19	95-2	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 2,3-Dibromobenzene-d4 (Sum)	19	95-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: Toluene-d8 (Sum)	19	95-0	79-130	04/09/2019 18:48	04/09/2019 18:48							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Method (Title) by EPA 8000-7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
Batch BCD00198 - EPA200.2/MSL										
Blank (BCD0198-BLKT)										
Cobalt	BLOD	4.0	ug/L							
Prepared: 04/04/2019 Analyzed: 04/05/2019										
LCS (BCD0198-BL1)										
Cobalt	498	4.0	ug/L	500		99.6	80-120			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
LCS Spk (BCD0198-BL51)										
Cobalt	500	4.0	ug/L	500		99.6	80-120	0.118	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike (BCD0198-MS1)										
Cobalt	Source: 1800191-10	4.0	ug/L	500	98.2	100	75-125			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike (BCD0198-MS3)										
Cobalt	Source: 1800191-12	4.0	ug/L	500	BLOD	98.5	75-125			
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike Spk (BCD0198-MS21)										
Cobalt	Source: 1800191-11	4.0	ug/L	500	98.2	101	75-125	0.688	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Matrix Spike Spk (BCD0198-MS20)										
Cobalt	Source: 1800191-13	4.0	ug/L	500	BLOD	99.4	75-125	0.873	20	
Prepared: 04/04/2019 Analyzed: 04/05/2019										
Batch BCD00199 - SW1470A										
Blank (BCD00199-BLKT)										
Mercury	BLOD	0.20	ug/L							
Prepared & Analyzed: 04/11/2019										
LCS (BCD00199-BL1)										
Mercury	1.34	0.20	ug/L	1.00		80.7	80-120			
Prepared & Analyzed: 04/11/2019										

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00390 - SW7475A										
LC8 Dup (BCD0039-B071)										
Mercury	2.88	0.20	ug/L	2.50		88.2	80-120	8.88	20	
Matrix Spike (BCD0039-M01)										
Source: 1808175-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.34	0.20	ug/L	2.50	BLDG	81.7	80-120			NS
Matrix Spike (BCD0039-M02)										
Source: 1808188-01 Prepared & Analyzed: 04/11/2019										
Mercury	2.38	0.20	ug/L	1.50	BLDG	81.2	80-120			
Matrix Spike Dup (BCD0039-M021)										
Source: 1808175-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.45	0.20	ug/L	2.50	BLDG	58.2	80-120	8.88	20	NS
Matrix Spike Dup (BCD0039-M020)										
Source: 1808188-01 Prepared & Analyzed: 04/11/2019										
Mercury	2.25	0.20	ug/L	2.50	BLDG	89.9	80-120	2.09	20	

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	SMC Limits	RPD	RPD Limit	Qual
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Batch: B000002 - BWS0008

Blank (B000002-BLANK)

Prepared & Analyzed: 04/09/2019

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,2-Dichlorobenzene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1-Hexane (MIX)	BL00	5.00	ug/L
2-Hexane (MIX)	BL00	5.00	ug/L
4-Methyl-2-pentane (MIX)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acrylonitrile	BL00	5.00	ug/L
Benzene	BL00	1.00	ug/L
Bromoethane	BL00	1.00	ug/L
Bromochloroethane	BL00	0.50	ug/L
Bromobenzene	BL00	1.00	ug/L
Bromomethane	BL00	1.00	ug/L
Carbon disulfide	BL00	10.0	ug/L
Carbon tetrachloride	BL00	1.00	ug/L
Chlorobenzene	BL00	1.00	ug/L
Chloroethane	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limits	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Blank (B000001-BLANK) Preserved & Analyzed 04/09/2019										
Chloroform	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,3-Dichloropropene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Isoprene	BL00	10.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methyl ethyl ketone	BL00	4.00	ug/L							
n-Butane	BL00	1.00	ug/L							
Butane	BL00	1.00	ug/L							
Tetrachloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	2.00	ug/L							
Sum 1,2-Dichloroethane-ol (Sum)	21.7		ug/L	50.0		103	70-120			
Sum 4-Bromobromobenzene (Sum)	49.9		ug/L	50.0		96.0	75-120			
Sum Dibromofluoromethane (Sum)	49.1		ug/L	50.0		98.3	70-130			

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00010 - 0000008										
Blank (BCD00010-BLK1)										
Prepared & Analyzed: 04/09/2019										
Sum: Ethanol-d1 (Sum)	48.8		ug/L	50.0		97.6	75-130			
LC9 (BCD00010-001)										
Prepared & Analyzed: 04/09/2019										
1,1,1,2-Tetrafluoroethane	44.5	0.4	ug/L	50.0		89.1	80-130			
1,1,1-Trichloroethane	44.9	1	ug/L	50.0		89.8	60-130			
1,1,2,2-Tetrafluoroethane	45.8	0.4	ug/L	50.0		91.6	85-130			
1,1,2-Trichloroethane	47.1	1	ug/L	50.0		94.2	75-130			
1,1-Dichloroethane	42.6	1	ug/L	50.0		85.2	70-130			
1,1-Dichloroethene	43.1	1	ug/L	50.0		86.2	70-130			
1,2-Dichloroethane	45.4	1	ug/L	50.0		90.7	75-130			
1,2-Dichloroethene	45.3	1	ug/L	50.0		90.6	70-130			
1,2-Dichlorobenzene	38.4	1	ug/L	50.0		76.8	70-130			
1,3-Dichlorobenzene	45.2	1	ug/L	50.0		90.4	75-130			
1,4-Dichlorobenzene	42.9	1	ug/L	50.0		85.7	75-130			
2-Methoxyethane (MEK)	41.0	0	ug/L	50.0		81.9	30-130			
2-Propanone (MEK)	46.2	0	ug/L	50.0		92.4	50-130			
4-Methyl-2-pentanone (MIBK)	43.2	0	ug/L	50.0		86.4	60-130			
Acetone	44.4	10	ug/L	50.0		88.7	40-140			
Acrylonitrile	281	0	ug/L	250		112	70-130			
Benzene	45.3	1	ug/L	50.0		90.7	60-130			
Bromochloromethane	41.8	1	ug/L	50.0		83.6	60-130			
Bromodichloromethane	45.8	0.5	ug/L	50.0		91.7	75-130			
Bromobenzene	44.7	1	ug/L	50.0		89.4	70-130			
Bromomethane	32.0	1	ug/L	50.0		64.1	30-145			
Carbon disulfide	47.8	10	ug/L	50.0		95.7	35-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/16/2019 5:01:15PM

Volatle Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
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Batch: B000031 - B000008

LOQ (B000031-B000008)										
Prepared & Analyzed 04/09/2019										
Carbon tetrachloride	45.8	1	ug/L	50.0		51.8	50-150			
Chlorobenzene	45.8	1	ug/L	50.0		51.2	50-150			
Chloroethane	42.1	1	ug/L	50.0		54.2	50-150			
Chloroform	41.7	0.5	ug/L	50.0		51.4	50-150			
Chloroform-d2	45.8	1	ug/L	50.0		51.5	40-125			
cis-1,2-Dichloroethane	49.2	1	ug/L	50.0		55.4	75-150			
cis-1,3-Dichloropropene	46.7	1	ug/L	50.0		50.5	75-150			
Dibromochloromethane	48.1	0.5	ug/L	50.0		56.2	50-150			
Dibromomethane	49.4	1	ug/L	50.0		54.7	75-150			
Ethylbenzene	44.0	1	ug/L	50.0		58.1	75-150			
m,p-Xylene	52.7	2	ug/L	100		52.7	75-150			
Methylene chloride	41.8	4	ug/L	50.0		55.5	50-150			
o-Xylene	45.2	1	ug/L	50.0		50.5	50-150			
Oxene	44.6	1	ug/L	50.0		50.6	50-150			
1,2,4-Trichlorobenzene (TCE)	58.2	1	ug/L	100		132	40-150			
Toluene	45.8	1	ug/L	50.0		51.7	75-150			
trans-1,2-Dichloroethane	41.6	1	ug/L	50.0		52.6	50-150			
trans-1,3-Dichloropropene	44.7	1	ug/L	50.0		55.5	50-150			
Trichloroethylene	42.5	1	ug/L	50.0		54.8	75-150			
Trichlorofluoromethane	49.2	1	ug/L	50.0		55.8	50-150			
Vinyl chloride	45.0	0.5	ug/L	50.0		50.0	50-150			
<hr/>										
Sum 1,3-Dichlorobenzene-d4 (Sum)	50.8		ug/L	50.0		102	75-150			
Sum 4-Bromodibromobenzene (Sum)	49.8		ug/L	50.0		99.2	75-150			
Sum Dibromofluoromethane (Sum)	48.8		ug/L	50.0		97.8	75-150			
Sum Fluorene-d10 (Sum)	49.0		ug/L	50.0		97.8	75-150			

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Extricate (B000002-008)										
Source: 1909191-02 Preserved & Analyzed: 04/08/2019										
1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dibromochloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloropropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromopropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromoethane	BL00	1.00	ug/L		BL00			NA	30	
1,4-Dichlorobenzene	11.8	1.00	ug/L		10.8			9.47	30	
toluene (MIX)	BL00	5.00	ug/L		BL00			NA	30	
2-Hexanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
Acetone	52.9	10.0	ug/L		47.1			7.77	30	
Acetonitrile	BL00	5.00	ug/L		BL00			NA	30	
Benzene	1.76	1.00	ug/L		1.79			1.65	30	
Bromochloromethane	BL00	1.00	ug/L		BL00			NA	30	
Bromoethane	BL00	0.50	ug/L		BL00			NA	30	
Bromobenzene	BL00	1.00	ug/L		BL00			NA	30	
Bromomethane	BL00	1.00	ug/L		BL00			NA	30	
Carbon disulfide	BL00	10.0	ug/L		BL00			NA	30	
Carbon tetrachloride	BL00	1.00	ug/L		BL00			NA	30	
Chlorobenzene	4.72	1.00	ug/L		4.90			11.4	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	



Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RFD	RFD Limit	Qual
Batch: B000003 - 000000										
Duplicate (B000003-DUP1)										
Source: 1908191-02 Project & Analyzed: 04082019										
Chlorobenzene	BL00	0.50	ug/L		BL00			NA	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	
cis-1,2-Dichloroethylene	2.92	1.00	ug/L		3.92			6.62	30	
cis-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
Dibromochloromethane	BL00	0.50	ug/L		BL00			NA	30	
Dibromomethane	BL00	1.00	ug/L		BL00			NA	30	
Ethylbenzene	BL00	1.00	ug/L		BL00			NA	30	
Isoprene	BL00	10.0	ug/L		BL00			NA	30	
m,p-Xylene	BL00	2.00	ug/L		BL00			NA	30	
Methylenecyclohexane	BL00	4.00	ug/L		BL00			NA	30	
n-Butane	BL00	1.00	ug/L		BL00			NA	30	
Butane	BL00	1.00	ug/L		BL00			NA	30	
Tetrachloroethylene (PCE)	BL00	1.00	ug/L		BL00			NA	30	
Toluene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,2-Dichloroethylene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L		BL00			NA	30	
Trichloroethylene	0.38	1.00	ug/L		BL00			NA	30	
Trichlorofluoromethane	BL00	1.00	ug/L		BL00			NA	30	
Vinyl acetate	BL00	10.0	ug/L		BL00			NA	30	
Vinyl chloride	BL00	0.50	ug/L		BL00			NA	30	
Xylenes, Total	BL00	2.00	ug/L		BL00			NA	30	
Sum 1,2-Dichloroethane-ol (Sum)	30.0		ug/L	30.0		100	70-120			
Sum 4-Bromobromobenzene (Sum)	49.2		ug/L	50.0		97.8	70-120			
Sum Dibromofluoromethane (Sum)	49.2		ug/L	50.0		98.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCO0030 - BVM000										
Duplicate (BCO0030-DUP1)										
Sum: Total=48 (Sum)		48.8		ug/L	50.0	97.6	75-130			
Matrix Spike (BCO0030-MSP1)										
Source: 1800181-02		Prepared & Analyzed: 04/09/2019								
1,1,1,2-Tetrafluoroethane	41.9	0.4	ug/L	50.0	BLDD	87.8	80-130			
1,1,1-Trichloroethane	42.8	1	ug/L	50.0	BLDD	85.1	80-130			
1,1,2,2-Tetrafluoroethane	44.5	0.4	ug/L	50.0	BLDD	89.0	85-130			
1,1,2-Trichloroethane	45.0	1	ug/L	50.0	BLDD	90.0	75-125			
1,1-Dichloroethane	42.8	1	ug/L	50.0	BLDD	84.7	75-135			
1,1-Dichloroethene	40.8	1	ug/L	50.0	BLDD	81.6	75-130			
1,2-Dichloroethane	41.4	1	ug/L	50.0	BLDD	82.8	75-135			
1,2-Dichloroethene	43.7	1	ug/L	50.0	BLDD	87.4	75-130			
1,2-Dibromoethane	49.8	1	ug/L	50.0	BLDD	99.2	75-130			
1,2-Dibromopropane	41.0	1	ug/L	50.0	BLDD	82.1	75-130			
1,4-Dibromobenzene	50.0	1	ug/L	50.0	95.8	78.4	75-125			
2-Butanone (MEK)	41.3	0	ug/L	50.0	BLDD	82.7	30-100			
2-Pentanone (MIBK)	45.7	0	ug/L	50.0	BLDD	91.4	55-130			
4-Methyl-2-pentanone (MIBK)	43.3	0	ug/L	50.0	BLDD	86.7	60-130			
Acetone	59.8	10	ug/L	50.0	47.1	94.4	40-140			
Acrylonitrile	299	0	ug/L	299	BLDD	100	75-130			
Benzene	43.8	1	ug/L	50.0	1.79	84.0	80-130			
Bromochloromethane	42.4	1	ug/L	50.0	BLDD	84.8	65-130			
Bromodichloromethane	43.4	0.5	ug/L	50.0	BLDD	86.8	75-130			
Bromobenzene	43.1	1	ug/L	50.0	BLDD	86.2	70-130			
Bromomethane	28.0	1	ug/L	50.0	BLDD	56.0	30-145			
Carbon disulfide	48.8	10	ug/L	50.0	BLDD	97.2	35-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	UREC	UREC Limit	RPD	RPD Limit	Qual
Batch: B000013 - B000008										
Main: Spike (B000013-001)										
Source: 1908191-02 Prepared & Analyzed: 04/08/2019										
Carbon tetrachloride	41.9	1	ug/L	50.0	BLCO	51.7	50-140			
Chlorobenzene	49.0	1	ug/L	50.0	4.90	55.3	50-120			
Chloroethane	42.3	1	ug/L	50.0	BLCO	51.4	50-120			
Chloroform	42.9	0.5	ug/L	50.0	BLCO	49.7	50-120			
Chloroform-d2	41.4	1	ug/L	50.0	BLCO	51.7	50-120			
cis-1,2-Dichloroethane	49.0	1	ug/L	50.0	3.12	55.4	70-120			
cis-1,3-Dichloropropene	42.5	1	ug/L	50.0	BLCO	50.0	70-120			
Dibromochloromethane	44.7	0.5	ug/L	50.0	BLCO	55.4	50-120			
Dibromomethane	40.9	1	ug/L	50.0	BLCO	51.9	70-120			
Ethylbenzene	42.8	1	ug/L	50.0	BLCO	55.8	70-120			
m,p-Xylene	51.8	2	ug/L	100	BLCO	55.4	70-120			
Methylene chloride	41.4	4	ug/L	50.0	BLCO	55.3	50-140			
o-Xylene	44.4	1	ug/L	50.0	BLCO	55.5	50-120			
Oxene	45.8	1	ug/L	50.0	BLCO	51.3	50-120			
1,2,4-Trichlorobenzene (TCE)	53.1	1	ug/L	100	BLCO	1.09	40-100			
Toluene	42.8	1	ug/L	50.0	BLCO	54.4	70-120			
trans-1,2-Dichloroethane	39.8	1	ug/L	50.0	BLCO	71.5	50-140			
trans-1,3-Dichloropropene	45.8	1	ug/L	50.0	BLCO	51.0	50-140			
Trichloroethylene	41.7	1	ug/L	50.0	BLCO	52.9	70-120			
Trichlorofluoromethane	38.1	1	ug/L	50.0	BLCO	75.3	50-140			
Vinyl chloride	42.9	0.5	ug/L	50.0	BLCO	50.7	50-140			
Sum: 1,3-Dichlorobenzene (Sum)	50.0		ug/L	50.0		55.8	70-120			
Sum: 4-Bromobromobenzene (Sum)	50.0		ug/L	50.0		1.01	70-120			
Sum: Dibromofluoromethane (Sum)	51.3		ug/L	50.0		1.03	70-120			
Sum: Ethene (Sum)	49.7		ug/L	50.0		57.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Head Space Analysis by GC - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BCD044H - No Prop VOC										
Blank (BCD044H-BLK)										
Prepared & Analyzed: 04/15/2019										
Methane	BLOD	5.0	ug/L							
Sum Acetylene (Sum)	490		ug/L	400		100	70-130			
LCS (BCD044H-LCS)										
Prepared & Analyzed: 04/15/2019										
Methane	209	5.0	ug/L	200		97.2	70-130			
Sum Acetylene (Sum)	446		ug/L	400		100	70-130			
Duplicate (BCD044H-DUP1)										
Source: 1809161-18 Prepared & Analyzed: 04/15/2019										
Methane	412	5.0	ug/L		443			7.22	20	
Sum Acetylene (Sum)	407		ug/L	400		100	70-130			
Matrix Spike (BCD044H-MS1)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	207	5.0	ug/L	200	BLOD	96.8	70-130			
Sum Acetylene (Sum)	402		ug/L	400		100	70-130			
Matrix Spike Dup (BCD044H-MS2)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	200	5.0	ug/L	200	BLOD	107	70-130	9.61	20	
Sum Acetylene (Sum)	408		ug/L	400		100	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0164 - No Prep Wet Chem										
Blank (BCD0164-BLK1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BCD0164-BS1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.09	0.05	mg/L	0.100		91.0	90-120			
Matrix Spike (BCD0164-MS1)				Source: 1909181-01 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120			
Matrix Spike Dup (BCD0164-MS2)				Source: 1909181-02 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120	0.00	20	
Batch BCD0162 - No Prep IC										
Blank (BCD0162-BLK1)				Prepared & Analyzed: 04/08/2019						
Chloride	BLOD	1.0	mg/L							
Sulfate	BLOD	1.0	mg/L							
LCS (BCD0162-BS1)				Prepared & Analyzed: 04/08/2019						
Chloride	20.7	1	mg/L	20.0		103	90-110			
Sulfate	20.1	1	mg/L	20.0		100	90-110			
LCS Dup (BCD0162-BS2)				Prepared & Analyzed: 04/08/2019						
Sulfate	20.1	1	mg/L	20.0		100	90-110	0.110	15	
Chloride	20.7	1	mg/L	20.0		103	90-110	0.040	15	
Matrix Spike (BCD0162-MS1)				Source: 19C1181-01MS1 Prepared & Analyzed: 04/08/2019						
Chloride	20.9	0.0	mg/L	20.0	17.1	80.7	90-110			ND
Sulfate	64.3	0.0	mg/L	50.0	3.5	107	90-110			ND

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	NASC Limits	RPD	RPD Limit	Qual
Batch BCD0182 - No Prep IC										
Matrix Spike Dup (BCD0182-MSD) Source: 18C1181-678E1 Prepared & Analyzed: 04/08/2019										
Sulfate	64.5	5.0	mg/L	80.0	3.5	100	90-110	5.318	15	Met
Chloride	200	5.0	mg/L	80.0	171	60.8	90-110	0.0066	15	Met
Batch BCD0284 - No Prep Wet Chem										
Blank (BCD0284-BLKT) Prepared & Analyzed: 04/08/2019										
Sulfate	BL00	1.00	mg/L							
LCS (BCD0284-881) Prepared & Analyzed: 04/08/2019										
Sulfate	4.94	1	mg/L			90.8	80-120			
LCS-Dup (BCD0284-882) Prepared & Analyzed: 04/08/2019										
Sulfate	5.19	1	mg/L			104	80-120	13.4	20	
Matrix Spike (BCD0284-MS1) Source: 18C0178-4E Prepared & Analyzed: 04/08/2019										
Sulfate	2.83	1.00	mg/L		BLOD	117	75-125			
Matrix Spike Dup (BCD0284-MS2) Source: 18C0178-4E Prepared & Analyzed: 04/08/2019										
Sulfate	4.08	1.00	mg/L		BLOD	99.0	75-125	16.3	20	
Batch BCD0414 - No Prep Wet Chem										
Blank (BCD0414-BLKT) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0414-881) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	2.48	0.1	mg/L	2.50		99.2	90-110			

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCD0414 - No Prep Wet Chem										
Matrix Spike (BCD0414-MS1)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.54	0.10	mg/L	2.50	BL00	140	90-110			NS
Matrix Spike Dup (BCD0414-MS2)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.52	0.10	mg/L	2.50	BL00	141	90-110	0.650	20	NS
Batch BCD0507 - No Prep Wet Chem										
Blank (BCD0507-BLK1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	BL00	5.0	mg/L							
LCS (BCD0507-LCS1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	92.0	5.0	mg/L	90.0		104	80-120			
Matrix Spike (BCD0507-MS1)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	141	5.0	mg/L	98.0	92.0	98.0	75-125			
Matrix Spike Dup (BCD0507-MS2)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	138	5.0	mg/L	92.0	92.0	94.0	75-125	1.43	20	
Batch BCD0541 - No Prep Wet Chem										
Blank (BCD0541-BLK1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0541-LCS1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	2.72	0.1	mg/L	2.50		108	90-110			

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BCD0541 - Wet Chem Wet Chem										
Matrix Spike (BCD0541-MS1)										
Source: 1809479-44										
Prepared & Analyzed: 04/16/2019										
Nitrate-Nitrite as N	4.05	0.10	mg/L	2.00	1.74	130	90-110			NS
Matrix Spike Dup (BCD0541-MS2)										
Source: 1809479-44										
Prepared & Analyzed: 04/16/2019										
Nitrate-Nitrite as N	5.02	0.10	mg/L	2.00	1.74	121	90-110	0.879	20	NS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Lead) by EPA 8000/8000 Surrogate Methods			Preparation Method	EPA 8000 8000 B	
1900191-03	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-03	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-04	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-05	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-06	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-07	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-08	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-09	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-10	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-11	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-12	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
1900191-13	50.0 mL / 50.0 mL	8000/8000	SCD0199	SCD0230	AD00027
Metals Chemistry Analysis			Preparation Method	No Prep IC	
1900191-01	1.00 mL / 1.00 mL	8000/8000 1	SCD0192	SCD0283	AC00108
1900191-02	1.00 mL / 1.00 mL	8000/8000 1	SCD0192	SCD0283	AC00108
1900191-03	1.00 mL / 1.00 mL	8000/8000 1	SCD0192	SCD0283	AC00108
1900191-04	1.00 mL / 1.00 mL	8000/8000 1	SCD0192	SCD0283	AC00108
1900191-07	1.00 mL / 1.00 mL	8000/8000 1	SCD0192	SCD0283	AC00108
Metals Spec Analysis by GC			Preparation Method	No Prep GC	
1900191-01	5.00 mL / 5.00 mL	8000/8000	SCD0494	SCD0613	AC00025
1900191-04	5.00 mL / 5.00 mL	8000/8000	SCD0494	SCD0613	AC00025
1900191-04611	1.00 mL / 5.00 mL	8000/8000	SCD0494	SCD0613	AC00025

Certificate of Analysis

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Date Issued: 4/16/2019 5:01:13PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Lead Screen Analysis by GC					
			Preparation Method	No Prep W/D	
1800181-05	1.00 mL / 0.05 mL	8104175A	SCD0404	SCD0413	AC00005
1800181-06	1.00 mL / 0.05 mL	8104175A	SCD0404	SCD0413	AC00005
1800181-07	1.00 mL / 0.05 mL	8104175A	SCD0404	SCD0413	AC00005
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800181-01	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0164	SCD0165	AC00002
1800181-04	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0164	SCD0165	AC00002
1800181-05	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0164	SCD0165	AC00002
1800181-06	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0164	SCD0165	AC00002
1800181-07	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0164	SCD0165	AC00002
1800181-02	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-03	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-08	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-09	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-10	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-11	8.00 mL / 8.00 mL	8104215	SCD0344	SCD0340	
1800181-01	1.00 mL / 0.05 mL	8402-4000-AC027-2011	SCD0414	SCD0429	AD00055
1800181-04	1.00 mL / 0.05 mL	8402-4000-AC027-2011	SCD0414	SCD0429	AD00055
1800181-05	1.00 mL / 0.05 mL	8402-4000-AC027-2011	SCD0414	SCD0429	AD00055
1800181-07	1.00 mL / 0.05 mL	8402-4000-AC027-2011	SCD0414	SCD0429	AD00055
1800181-01	50.0 mL / 50.0 mL	8402-2000-2011	SCD0807	SCD0818	
1800181-04	50.0 mL / 50.0 mL	8402-2000-2011	SCD0807	SCD0818	
1800181-05	50.0 mL / 50.0 mL	8402-2000-2011	SCD0807	SCD0818	
1800181-06	50.0 mL / 50.0 mL	8402-2000-2011	SCD0807	SCD0818	
1800181-07	50.0 mL / 50.0 mL	8402-2000-2011	SCD0807	SCD0818	
1800181-09	8.00 mL / 0.05 mL	8402-4000-AC027-2011	SCD0414	SCD0429	AD00055

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Waste Organic Compounds by GCMS					
			Preparation Method	SW8260B	
1900181-01	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-02	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-04	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-05	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-06	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-07	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-08	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-09	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-10	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-11	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-12	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-13	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-14	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-15	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-16	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-17	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-18	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
1900181-19	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
Metals (Total) by EPA 8260/8210 Series Methods					
			Preparation Method	SW7470A	
1900181-14	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900181-15	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900181-16	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900181-17	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900181-18	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
1900181-19	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000

Certificate of Analysis

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Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
EPAL016 P 02.1 in Non-Potable Water	
Chloride	VELAP/NC, WVDOP
Sulfate	VELAP/NC, WVDOP
MSCL17SM in Non-Potable Water	
Methane	VELAP
SM12 23206-2011 in Non-Potable Water	
Alkalinity	VELAP/WVDOP
SM12 4500-W036-2011 in Non-Potable Water	
Nitrite as N	VELAP/WVDOP
SM12 4500-W037-2011 in Non-Potable Water	
Nitrate/nitrite as N	VELAP/WVDOP
SM0010C in Non-Potable Water	
Cobalt	VELAP/WVDOP
SM7076A in Non-Potable Water	
Mercury	VELAP/NC, WVDOP
SM8290Z in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,1-Trichloroethane	NC, VELAP, WVDOP
1,1,2,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,2-Trichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethylene	NC, VELAP, WVDOP
1,2,3-Trichloropropane	NC, VELAP, WVDOP
1,2-Dichlorobenzene	NC, VELAP, WVDOP
1,2-Dichloroethane	NC, VELAP, WVDOP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
1,1-Dichloroethane	NC, NELAP, WYDEP
1,1-Dichloroethene	NC, NELAP, WYDEP
2-Butanone (MIX)	NC, NELAP, WYDEP
2-Hexanone (MIX)	NC, NELAP, WYDEP
4-Methyl-2-pentanone (MIX)	NC, NELAP, WYDEP
Acetone	NC, NELAP, WYDEP
Acrylonitrile	NC, NELAP, WYDEP
Benzene	NC, NELAP, WYDEP
Bromochloromethane	NC, NELAP, WYDEP
Bromoethene	NC, NELAP, WYDEP
Bromomethane	NC, NELAP, WYDEP
Bromonitrile	NC, NELAP, WYDEP
Bromotoluene	NC, NELAP, WYDEP
Carbon disulfide	NC, NELAP, WYDEP
Carbon tetrachloride	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chloroethane	NC, NELAP, WYDEP
Chloroform	NC, NELAP, WYDEP
Chloromethane	NC, NELAP, WYDEP
cis-1,2-Dichloroethylene	NC, NELAP, WYDEP
cis-1,3-Dichloropropene	NC, NELAP, WYDEP
Dibromochloromethane	NC, NELAP, WYDEP
Dibromomethane	NC, NELAP, WYDEP
Dichlorodifluoromethane	NC, NELAP, WYDEP
Ethylbenzene	NC, NELAP, WYDEP
Isomethane	NC, NELAP, WYDEP
m,p-Xylenes	NC, NELAP, WYDEP
Methylene chloride	NC, NELAP, WYDEP
Naphthalene	NC, NELAP, WYDEP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
o-Xylene	NC.VELAP.WVDEP
Styrene	NC.VELAP.WVDEP
Tetrachloroethylene (PCE)	NC.VELAP.WVDEP
Toluene	NC.VELAP.WVDEP
trans-1,2-Dichloroethylene	NC.VELAP.WVDEP
trans-1,3-Dichloropropene	NC.VELAP.WVDEP
trans-1,4-Dichloro-2-butene	NC.VELAP.WVDEP
Trichloroethylene	NC.VELAP.WVDEP
Trichlorofluoromethane	NC.VELAP.WVDEP
Vinyl acetate	NC.VELAP.WVDEP
Vinyl chloride	NC.VELAP.WVDEP
Xylenes, Total	NC.VELAP.WVDEP
EMSP15 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Call Number	Expires
MD06	Maryland DE Drinking Water	341	12/31/2019
VELAP Certificate #4337	VELAP-Virginia Certificate #10074	45003	05/14/2019

Certificate of Analysis

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Qualifiers and Definitions

J	The reported result is an estimated value.
M	Matrix spike recovery is outside established acceptance limits
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLDD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1264, 1268, 1282, and 1288.



7841 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804)358-8297 FAX

Chain of Custody
 Form # 01501
 Rev. 1.0
 Effective: Feb 14, 2008

CHAIN OF CUSTODY

PAGE 1 of 3

COMPANY NAME: <u>Joyce Engineering, Inc.</u>		INVOICE TO: <u>Colpaper Environmental Services</u>	PROJECT NAME/Quote #: <u>LVCWLP Corrective Action Well</u>
CONTACT: <u>Jane White</u>		INVOICE CONTACT: <u>Paul Howard</u>	SITE NAME: <u>Laurel Valley Center Sanitary Landfill (Colpaper)</u>
ADDRESS: <u>1804 Dewey Lane, Richmond, VA 23229</u>		INVOICE ADDRESS: <u>18100 WOODS BLVD SUITE 101, GREENSBORO, NC 27409</u>	PROJECT NUMBER: <u>Job No. 190305001</u>
PHONE #: <u>(804) 358-8295</u>	INVOICE PHONE #: <u>(844) 727-2468</u>	P.O. #	
FAX #: <u>(804) 358-4382</u>	EMAIL: <u>janew@joyceeng.com</u>	Pretreatment Program	
Is sample for compliance reporting? YES NO		Is sample from a chlorinated supply? YES NO	
SAMPLER NAME (PRINT): <u>M. Adams</u>		SAMPLER SIGNATURE: <u>[Signature]</u>	
		Turn Around Time: <u>10 Days</u>	

CLIENT SAMPLE I.D.	Composite Field Filled (Disinfectant Method)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
									Lead (Pb) (Pb)	Mercury (Hg) (Hg)	Nickel (Ni) (Ni)	Activity / Composite / NO2 Sulfide	Millars (Mn) (Mn)	Sulfide (Sulf) (Sulf)		
1) MW-10	X			4/16	07:00			1	X	X	X	X	X	X		
2) MW-1	X			4/16	07:00			1	X	X	X	X	X	X		
3) MW-2	X			4/16	07:00			1	X	X	X	X	X	X		
4) C.L.F-1	X			4/16	07:00			1	X	X	X	X	X	X		
5) MW-1	X			4/16	07:00			1	X	X	X	X	X	X		
6) MW-5	X			4/16	07:00			1	X	X	X	X	X	X		
7) MW-16	X			4/16	07:00			1	X	X	X	X	X	X		
8) MW-10	X			4/16	07:00			1	X	X	X	X	X	X		
9) MW-16	X			4/16	07:00			1	X	X	X	X	X	X		
10) C.W-1E	X			4/16	07:00			1	X	X	X	X	X	X		

RECEIVED: <u>[Signature]</u> DATE: <u>4/16/09</u> RECEIVED: <u>[Signature]</u> DATE: <u>4/16/09</u> RECEIVED: <u>[Signature]</u> DATE: <u>4/16/09</u>	QC Data Package <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LAB USE ONLY COOLER TEMP: <u>4.2</u> °C	LaBella Associates, 19D0161 Laurel Valley Corrective Action We Recd: 04/03/2009 Due: 04/17/09
---	--	--	---



1941 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8298 PHONE
 (804)358-8297 FAX

Chain of Custody
 Form # 07531
 Rev. 1.0
 Effective Feb 14, 2014

CHAIN OF CUSTODY

PAGE 2 of 2

COMPANY NAME: <u>Joyce Engineering, Inc.</u>	INVOICE TO: <u>Culpeper Environmental Services</u>	PROJECT NAME/Quote #: <u>LYCBLF Corrective Action Well</u>
CONTACT: <u>Jeta White</u>	INVOICE CONTACT: <u>Paul Howard</u>	SITE NAME: <u>Laurel Valley Center Sanitary Landfill (Culpeper)</u>
ADDRESS: <u>1804 Dandy Lane, Richmond, VA 23229</u>	INVOICE ADDRESS: <u>18 Westover Blvd, Suite 101, Green, VA 23041</u>	PROJECT NUMBER: <u>Job No. 2013050501</u>
PHONE #: <u>(804) 358-8298</u>	INVOICE PHONE #: <u>(840) 727-2468</u>	P.O. #
FAX #: <u>(804) 358-4282</u>	EMAIL: <u>Jeta@joyce-engineering.com</u>	Pretreatment Program

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO

SAMPLER NAME (PRINT): M. Johnson SAMPLER SIGNATURE: [Signature] PMS I.D. #

Turn Around Time: 10 Days

Media Codes: SW-Surface Water GW-Original Water GW-Drinking Water I-Industrial OP-Original Air SP-Slip (THOU)

CLIENT SAMPLE I.D.	Media	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS	
											Cadmium (HCL)	Cobalt (HNO3)	Mercury (HNO3)	Nickel (HNO3)	Ammonia / Carbide / HCL Buffer	Methane (HCL)	Sulfide (HNO3 + ZnAc)		Pb (HNO3)
11 <u>AW-16</u>	X	X	X								X	X	X	X	X	X	X		
12 <u>AW-14</u>	X	X	X								X	X	X	X	X	X	X		
13 <u>AW-11</u>	X	X	X								X	X	X	X	X	X	X		
14 <u>AW-23</u>	X	X	X								X	X	X	X	X	X	X		
15 <u>CLP-10</u>	X	X	X								X	X	X	X	X	X	X		
16 <u>PLVE</u>	X	X	X								X	X	X	X	X	X	X		
17 <u>CLP-11</u>	X	X	X								X	X	X	X	X	X	X		
18 <u>AW-22</u>	X	X	X								X	X	X	X	X	X	X		
19 <u>CLP-21</u>	X	X	X								X	X	X	X	X	X	X		

RECEIVED: <u>[Signature]</u> DATE: <u>5/15/19</u> RECEIVED: <u>[Signature]</u> DATE: <u>5/15/19</u> RECEIVED: <u>[Signature]</u> DATE: <u>5/15/19</u>	QC Data Package Item 1 <input type="checkbox"/> Item 2 <input type="checkbox"/> Item 3 <input type="checkbox"/> Item 4 <input type="checkbox"/>	LAB USE ONLY LaBella Associates, 19D0161 Laurel Valley Corrective Action We Recd: 04/03/2019 Due: 04/17/2019
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LaBella Associates, 19D0161
 Laurel Valley Corrective Action We

Sample Preservation Log

Sample Preservation Log
 Form 1100
 Revised
 October 10, 2010
 Page 1 of 1

Order ID: _____
 Recd: 04/03/2019 Due: 04/17/2019

Date Performed: 4-3-19

Analyst Performing Check: CAF

Sample ID	Well	Metals		Cyanide		Sulfide		Ammonia		TKN	Flow Tot	NO ₂ -NO ₃		DO	Phosphate		SYOC		ORP		Residual Chlorine		
		As	Cd	Cu	Pb	Ag	Bi	Co	Cr			Fe	Mn		Ni	Se	Zn	As	Cd	Cr	Fe	Mn	Ni	Se	Zn
-01	B																						
	F																						
-02	A	✓																					
-03	A	✓																					
-04	A	✓																					
-05	A	✓																					
-06	A	✓																					
-07	A	✓																					
-08	A	✓																					
-09	A	✓																					
-10	A	✓																					
-11	A	✓																					
-12	A	✓																					
-13	A	✓																					
-14	D	✓																					

NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____
 NaOH ID: _____ NaOH ID: _____

ORP preserved baseline _____
 pH must be equal between 6.5 - 8.5
 Buffer Salt ID: _____
 IN NaOH ID: _____ ON NaOH: _____

Analyst Initials: _____

*This log reflects only the actual TCEM as approved under contract with the client.



19720161

Sample Preservation Log

Sample No:

4-5-14

10/10/14

Sample Location/Date: 605

Sample No.	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status	Sample Notes	Sample ID	Sample Date	Sample Time	Sample Status	Sample Notes
1	1A	✓										
2	1B	✓										
3	1C	✓										
4	1D	✓										
5	1E	✓										
6	1F	✓										
7	1G	✓										
8	1H	✓										
9	1I	✓										
10	1J	✓										
11	1K	✓										
12	1L	✓										
13	1M	✓										
14	1N	✓										
15	1O	✓										
16	1P	✓										
17	1Q	✓										
18	1R	✓										
19	1S	✓										
20	1T	✓										
21	1U	✓										
22	1V	✓										
23	1W	✓										
24	1X	✓										
25	1Y	✓										
26	1Z	✓										

Sample ID: _____ Date: _____
 Sample Name: _____ Sample Type: _____
 Sample Location: _____ Sample Date: _____
 Sample Time: _____ Sample Status: _____
 Sample Notes: _____
 Sample ID: _____ Date: _____
 Sample Name: _____ Sample Type: _____
 Sample Location: _____ Sample Date: _____
 Sample Time: _____ Sample Status: _____
 Sample Notes: _____

This document is the property of the Department of Defense and is to be controlled in accordance with the Department of Defense Information Security Policy.

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Sample Conditions Checklist

Sample Received at	4/16/19
Was area sampled isolated?	Yes
Were fumes from soil? If so, were they removed first?	No
Are the correct forms filled out completely and correctly?	Yes
Do all labels match copies with custody papers?	Yes
Is the temperature blank or representative sample when available? Is it or required to be, and correctly labeled?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA8221, EPA8204, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but lab preservation may delay analysis.	Yes

For the Trip Blank see 19D0177-03. BAR 04/03/19 1518

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Laboratory Sample ID: 1909191-01

Client Sample ID: MW-08

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2100B-2014	20.0		5.0	5.0	1	mg/L
Chloride	01	SPH200.0 EQ.1	1.9		0.5	1.0	1	mg/L
Nitrate as N	01	Colo.	0.344		0.110	0.150	1	mg/L
Nitrate-Nitrite as N	01	SM22 4500-NO3P-2005	0.34		0.10	0.10	1	mg/L

Laboratory Sample ID: 1909191-02

Client Sample ID: MW-8

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	02	SW610C	98.2		2.0	4.0	1	ug/L
1,3-Dichlorobenzene	02	SW610B	0.40	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW610B	10.8		0.40	1.00	1	ug/L
Acetone	02	SW610D	47.1		7.00	10.0	1	ug/L
Benzene	02	SW610E	1.79		0.40	1.00	1	ug/L
Chlorobenzene	02	SW610B	4.80		0.40	1.00	1	ug/L
cis-1,3-Dichloroethylene	02	SW610B	3.12		0.40	1.00	1	ug/L

Laboratory Sample ID: 1909191-03

Client Sample ID: MW-11

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cetane	03	SW610C	137		2.0	4.0	1	ug/L
1,4-Dichlorobenzene	03	SW610B	0.99	J	0.40	1.00	1	ug/L
Acetone	03	SW610D	19.7		7.00	10.0	1	ug/L
Benzene	03	SW610E	0.68	J	0.40	1.00	1	ug/L
Chlorobenzene	03	SW610B	4.08		0.40	1.00	1	ug/L
Chloroethane	03	SW610B	0.80	J	0.70	1.00	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-04 Client Sample ID: CLF-1

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	04	SM9219C	98.2		2.0	4.0	1	ug/L
1,1-Dichloroethene	04	SW8260B	1.02		0.40	1.00	1	ug/L
1,2-Dichloroethene	04	SW8260B	4.82		0.40	1.00	1	ug/L
Benzene	04	SW8260B	1.15		0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260B	4.15		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260B	2.77		0.40	1.00	1	ug/L
Trichloroethylene	04	SW8260B	0.65	J	0.40	1.00	1	ug/L

Laboratory Sample ID: 1908181-05 Client Sample ID: WFN-3

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coli	05	SM9219C	4.6		2.0	4.0	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1909161-07 Client Sample ID: MW-1C

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Det. Factor	Units
Colist	07	SW6210C	36.5		2.0	4.0	1	ug/L
1,1-Dichloroethane	07	SW6200B	16.6		0.40	1.00	1	ug/L
1,2-Dichloroethane	07	SW6200B	1.04		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	07	SW6200B	4.82		0.40	1.00	1	ug/L
Benzene	07	SW6200B	1.12		0.40	1.00	1	ug/L
Chlorobenzene	07	SW6200B	1.88		0.40	1.00	1	ug/L
Chloroethane	07	SW6200B	3.31		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW6200B	21.6		0.40	1.00	1	ug/L
trans-1,2-Dichloroethylene	07	SW6200B	0.70	J	0.65	1.00	1	ug/L
Trichloroethylene	07	SW6200B	1.21		0.40	1.00	1	ug/L
Vinyl chloride	07	SW6200B	4.82		0.50	0.50	1	ug/L

Laboratory Sample ID: 1909161-08 Client Sample ID: MW-1D

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Det. Factor	Units
Colist	08	SW6210C	17.2		2.0	4.0	1	ug/L
1,1-Dichloroethane	08	SW6200B	0.71	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	08	SW6200B	3.62		0.40	1.00	1	ug/L
Benzene	08	SW6200B	0.57	J	0.40	1.00	1	ug/L
Chlorobenzene	08	SW6200B	1.31		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	08	SW6200B	8.94		0.40	1.00	1	ug/L
Vinyl chloride	08	SW6200B	2.17		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808101-09 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	09	SW8260B	3.08		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	09	SW8260B	4.31		0.40	1.00	1	ug/L
Benzene	09	SW8260B	1.49		0.40	1.00	1	ug/L
Chlorobenzene	09	SW8260B	1.41		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	09	SW8260B	32.0		0.40	1.00	1	ug/L
Trichloroethylene	09	SW8260B	3.68		0.40	1.00	1	ug/L
Vinyl chloride	09	SW8260B	4.88		0.50	0.50	1	ug/L

Laboratory Sample ID: 1808101-10 Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	10	SW8260B	1.95		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	10	SW8260B	0.55	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	10	SW8260B	13.2		0.40	1.00	1	ug/L
Trichloroethylene	10	SW8260B	1.48		0.40	1.00	1	ug/L
Vinyl chloride	10	SW8260B	0.55		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908101-11 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	11	SW8260B	4.59		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260B	1.48		0.40	1.00	1	ug/L
Benzene	11	SW8260B	1.01		0.40	1.00	1	ug/L
Chlorobenzene	11	SW8260B	0.54	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260B	18.4		0.40	1.00	1	ug/L
Trichloroethylene	11	SW8260B	2.74		0.40	1.00	1	ug/L
Vinyl chloride	11	SW8260B	3.54		0.50	0.50	1	ug/L

Laboratory Sample ID: 1908101-12 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	12	SW8260B	2.89		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260B	0.73	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260B	15.4		0.40	1.00	1	ug/L
Trichloroethylene	12	SW8260B	2.45		0.40	1.00	1	ug/L

Laboratory Sample ID: 1908101-14 Client Sample ID: MW-10

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,4-Dichlorobenzene	14	SW8260B	0.72	J	0.40	1.00	1	ug/L
Benzene	14	SW8260B	1.43		0.40	1.00	1	ug/L
Chlorobenzene	14	SW8260B	0.30		0.40	1.00	1	ug/L
Methane	14PBT	POB175M	2200		14.0	25.0	1	ug/L
Alkalinity	14	SM2122B-2011	212		5.0	5.0	1	mg/L
Chloride	14	SP4300.0 RG.1	16.0		0.5	1.0	1	mg/L
Sulfate	14	SP4300.0 RG.1	7.4		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1808181-18 Client Sample ID: CLF-11A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	18	SW8260B	4.44		0.60	1.00	1	ug/L
cis-1,2-Dichloroethylene	18	SW8260B	14.3		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	6.19		0.40	1.00	1	ug/L
Methane	18	MSL17M	443		2.9	5.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	136		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	98.3		0.5	1.0	1	mg/L
Sulfate	18	EPA800.0-R2-1	81.4		0.5	1.0	1	mg/L

Laboratory Sample ID: 1808181-18 Client Sample ID: PZ-4E

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	18	SW1717A	3.73		0.30	0.30	1	ug/L
cis-1,2-Dichloroethane	18	SW8260B	1.08		0.40	1.00	1	ug/L
Trichloroethylene	18	SW8260B	0.08	J	0.40	1.00	1	ug/L
Vinyl chloride	18	SW8260B	0.87		0.50	0.50	1	ug/L
Methane	18	MSL17M	3580		14.5	35.0	1	ug/L
Alkalinity	18	SM21 (2008-2017)	26.0		5.0	5.0	1	mg/L
Chloride	18	EPA800.0-R2-1	1.5		0.5	1.0	1	mg/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
Client Site ID: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 5:01:13PM

Laboratory Sample ID: 1908181-17

Client Sample ID: CLF-83

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	DR Factor	Units
1,1-Dichloroethane	17	EPA8260B	0.64	J	0.60	1.00	1	ug/L
Ammonia	17	SM21 2008-2011	92.0		8.0	8.0	1	mg/L
Chloride	17	EPA800.0 R2.1	4.3		0.0	1.0	1	mg/L
Nitrate as N	17	Calc.	0.291		0.10	0.10	1	mg/L
Nitrate-Nitrite as N	17	SM22 4500-NO3F-0118	0.23		0.10	0.10	1	mg/L
Sulfate	17	EPA800.0 R2.1	51.8		8.0	1.0	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-6200 Fax: (804) 298-6207

Certificate of Analysis

Final Report

Laboratory Order ID 1900161

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 3, 2019 13:52
Date Issued: April 16, 2019 17:01
Project Number: 2181900.00.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/03/2019 13:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mahra
Lab Director/Quality Assurance Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are shown as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	19D0161-01	Ground Water	04/03/2019 07:55	04/03/2019 13:52
MW-6	19D0161-02	Ground Water	04/02/2019 09:40	04/03/2019 13:52
MW-X1	19D0161-03	Ground Water	04/02/2019 09:20	04/03/2019 13:52
CLF-1	19D0161-04	Ground Water	04/02/2019 10:05	04/03/2019 13:52
MW-3	19D0161-05	Ground Water	04/02/2019 10:20	04/03/2019 13:52
MW-5	19D0161-06	Ground Water	04/02/2019 09:00	04/03/2019 13:52
MW-10	19D0161-07	Ground Water	04/02/2019 08:35	04/03/2019 13:52
MW-11	19D0161-08	Ground Water	04/02/2019 10:25	04/03/2019 13:52
MW-12	19D0161-09	Ground Water	04/02/2019 10:30	04/03/2019 13:52
MW-13	19D0161-10	Ground Water	04/02/2019 07:25	04/03/2019 13:52
MW-14	19D0161-11	Ground Water	04/02/2019 10:40	04/03/2019 13:52
MW-15	19D0161-12	Ground Water	04/02/2019 07:35	04/03/2019 13:52
MW-16	19D0161-13	Ground Water	04/02/2019 07:40	04/03/2019 13:52
MW-17	19D0161-14	Ground Water	04/02/2019 08:00	04/03/2019 13:52
CLF-15A	19D0161-15	Ground Water	04/02/2019 08:40	04/03/2019 13:52
FZ-4E	19D0161-16	Ground Water	04/02/2019 08:00	04/03/2019 13:52
CLF-5D	19D0161-17	Ground Water	04/02/2019 08:20	04/03/2019 13:52
MW-X2D	19D0161-18	Ground Water	04/02/2019 08:15	04/03/2019 13:52
CLF-8T	19D0161-19	Ground Water	04/02/2019 08:30	04/03/2019 13:52

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909181-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-6	MSD17PM	04/15/2019 10:18	04/15/2019 10:17	BLOD		0.9	0.8	1	mg/L	PHM
Sum Analytes (Sum)	01	113 %	75-130	04/15/2019 10:17	04/15/2019 10:17							
Wet Chemistry Analysis												
Alkalinity	01	NA	SM22 23009-0011	04/15/2019 13:05	04/15/2019 13:10	20.0		0.5	0.5	1	mg/L	TMB
Chloride	01	10387-00-8	8PA300.0 R2.1	04/08/2019 16:25	04/08/2019 16:26	1.9		0.5	1.0	1	mg/L	BG
Nitrate as N	01	14797-85-8	Calc	04/11/2019 14:28	04/11/2019 14:27	0.344		0.110	0.150	1	mg/L	PHM
Nitrate/Nitrite as N	01	NA	SM22 41004-0011-2011	04/11/2019 14:28	04/11/2019 14:27	0.34		0.10	0.10	1	mg/L	RLM
Nitrite as N	01	14797-85-8	SM22 41004-0011-2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	01	14808-79-8	8PA300.0 R2.1	04/08/2019 16:25	04/08/2019 16:25	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	01	19805-25-8	8PA3218	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 180919-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	02	7440-50-9	SW8210C	04/04/2019 17:00	04/05/2019 16:33	BLD		2.0	4.0	1	ug/L	SKL
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	69-03-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.40	1	ug/L	KCB
1,1,1-Trifluoroethane	02	71-68-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	02	75-34-6	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	02	75-05-5	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	75-34-3	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
1,1-Dichloroethylene	02	75-35-4	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	84-74-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	95-50-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,2-Dibromoethane	02	107-06-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.70	1.00	1	ug/L	KCB
1,2-Dibromobenzene	02	79-07-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	02	106-46-7	SW8260B	04/05/2019 12:08	04/05/2019 12:08	10.8		0.40	1.00	1	ug/L	KCB
2-Butanone (MEK)	02	75-07-3	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	1.00	1	ug/L	KCB
3-Pentanone (MIBK)	02	99-10-8	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		2.00	3.00	1	ug/L	KCB
4-Methyl-2-pentanone (MBO)	02	109-10-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.80	3.00	1	ug/L	KCB
Acetone	02	67-64-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	47.1		7.00	10.0	1	ug/L	KCB
Acrylonitrile	02	107-13-1	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.70	3.00	1	ug/L	KCB
Benzene	02	71-43-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	1.75		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-5	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	02	75-27-4	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	02	75-25-2	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.40	1.00	1	ug/L	KCB
Bromomethane	02	74-83-9	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		0.80	1.00	1	ug/L	KCB
Carbon Disulfide	02	75-15-0	SW8260B	04/05/2019 12:08	04/05/2019 12:08	BLD		1.00	10.0	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809161-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	02	54-29-5	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
Chlorobenzene	02	108-90-7	SW826008	04/08/2019 12:08	04/08/2019 12:08	4.80		0.40	1.00	1	ug/L	RC9
Chloroethane	02	75-00-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.75	1.00	1	ug/L	RC9
Chloroform	02	67-68-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	RC9
Chloroethene	02	74-87-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
cis-1,2-Dichloroethylene	02	156-54-2	SW826008	04/08/2019 12:08	04/08/2019 12:08	1.12		0.40	1.00	1	ug/L	RC9
cis-1,2-Dichloropropene	02	10021-91-0	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
Dibromochloromethane	02	129-48-1	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.25	0.50	1	ug/L	RC9
Dibromomethane	02	74-93-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Dichlorodifluoromethane	02	75-71-8	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.35	1.00	1	ug/L	RC9
Ethylbenzene	02	100-41-4	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Hexamethane	02	74-82-4	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		1.20	10.0	1	ug/L	RC9
m,p-Xylenes	02	119601-26	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	2.00	1	ug/L	RC9
1												
Methylene chloride	02	75-29-2	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	4.00	1	ug/L	RC9
Heptachlorene	02	81-20-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
n-Heptane	02	95-47-6	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Styrene	02	100-42-5	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Tetrachloroethylene (PCE)	02	127-18-4	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9
Toluene	02	108-88-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	1.00	1	ug/L	RC9
trans-1,2-Dichloroethylene	02	106-66-3	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.60	1.00	1	ug/L	RC9
trans-1,2-Dichloropropene	02	10021-02-8	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.20	1.00	1	ug/L	RC9
trans-1,4-Dichloro-2-butene	02	110-67-8	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	4.00	1	ug/L	RC9
Trichloroethylene	02	79-01-6	SW826008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.40	1.00	1	ug/L	RC9

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909181-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Toluene/Benzene	02	75-65-4	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	8460000	04/08/2019 12:08	04/08/2019 12:08	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		0.50	0.50	1	ug/L	KCS
Ethene, Total	02	1330-20-1	8460008	04/08/2019 12:08	04/08/2019 12:08	BL00		1.00	0.00	1	ug/L	KCS
Sum: 1,4-Dichlorobenzene (Sum)	02	79-11-8	79-130	04/08/2019 12:08	04/08/2019 12:08							
Sum: 4-Bromobenzonitrile (Sum)	02	95-83-2	79-130	04/08/2019 12:08	04/08/2019 12:08							
Sum: Chlorobenzonitrile (Sum)	02	95-83-2	79-130	04/08/2019 12:08	04/08/2019 12:08							
Sum: Nitrobenzene (Sum)	02	95-83-2	79-130	04/08/2019 12:08	04/08/2019 12:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-21

Laboratory Sample ID: 1909181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	01	7440-48-4	8060-10C	04/04/2019 17:30	04/05/2019 15:40	137		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-X1

Laboratory Sample ID: 1809181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	630-20-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	79-34-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	79-34-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	95-19-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	09	107-06-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	00	78-87-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	00	106-46-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.59	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	00	78-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		3.00	5.00	1	ug/L	KCS
2-Propanone (MIBK)	00	99-79-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	00	106-10-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.50	5.00	1	ug/L	KCS
Acefen	00	8746-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	15.7		7.00	10.0	1	ug/L	KCS
Arylonite	00	107-13-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	00	71-43-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	0.68	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	00	74-87-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	00	79-27-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	00	79-23-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	00	74-83-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	00	75-15-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	00	58-23-5	SW82000	04/08/2019 12:52	04/08/2019 12:52	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	00	108-90-7	SW82000	04/08/2019 12:52	04/08/2019 12:52	4.88		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-21

Laboratory Sample ID: 1809181-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-05-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00	J	0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	0.80	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	01	156-60-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	13466-1	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-93-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.85	1.00	1	ug/L	KCS
Difluoroethane	01	103-41-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Dibromoethane	01	74-98-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		1.70	10.0	1	ug/L	KCS
o,p'-DDE	01	178601-05	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	01	75-09-2	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		3.00	4.00	1	ug/L	KCS
Perchloroethane	01	61-26-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
p-Xylene	01	85-47-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-0	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-3	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-97-8	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		1.80	8.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	79-09-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW82000	04/08/2019 12:52	04/08/2019 12:52	BL00		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-X1

Laboratory Sample ID: 1909161-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	01	75-01-4	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		0.50	0.50	1	ug/L	RC8
Ethene, Total	02	1330-20-7	SW82008	04/08/2019 12:52	04/08/2019 12:52	BLDD		1.00	0.50	1	ug/L	RC8
Sum: 1,2-Dichloroethene-d1 (Sum)	03	79-12-6	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: 4-Dibromodichloroethene (Sum)	01	96-9-6	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: Dibromodichloroethene (Sum)	02	107-66-3	79-120	04/08/2019 12:52	04/08/2019 12:52							
Sum: Toluene-d8 (Sum)	03	96-11-8	70-130	04/08/2019 12:52	04/08/2019 12:52							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Cadmium	04	7440-48-4	8060-10C	04/04/2019 17:30	04/05/2019 15:40	19.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	600-20-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-68-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	79-34-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-70-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropene	04	80-10-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	85-50-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	107-06-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.00		0.40	1.00	1	ug/L	KCS
2-Hexanone (MIX)	04	78-03-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
2-Hexanone (MIX)	04	89-17-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	106-16-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.50	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.70	3.00	1	ug/L	KCS
Benzene	04	71-43-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	1.00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	04	74-87-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	04	75-23-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	58-23-5	SW82000	04/08/2019 13:14	04/08/2019 13:14	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW82000	04/08/2019 13:14	04/08/2019 13:14	4.10		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909161-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-05-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	04	156-59-2	SW82000	04/08/2019 13:14	04/08/2019 13:14	3.77		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	04	13468-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-93-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.65	1.00	1	ug/L	KCS
Diethylamine	04	103-41-4	SW82000	04/05/2019 13:14	04/05/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Ethylbenzene	04	74-98-4	SW82000	04/08/2019 13:14	04/05/2019 13:14	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	04	17860-25-1	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW82000	04/08/2019 13:14	04/05/2019 13:14	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
n-Butane	04	64-67-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Benzene	04	100-82-0	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-3	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-8	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-67-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW82000	04/08/2019 13:14	04/08/2019 13:14	0.88	J	0.40	1.00	1	ug/L	KCS
Tetrachloromethane	04	75-69-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW82000	04/08/2019 13:14	04/08/2019 13:14	BLOD		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-1

Laboratory Sample ID: 1909181-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	04	75-01-4	8265000	04082019 13:14	04082019 13:14	BLDD		0.50	0.50	1	ug/L	WCS
Ethene, Total	04	1336-20-7	8265000	04082019 13:14	04082019 13:14	BLDD		1.00	1.00	1	ug/L	WCS
Sum: 1,2-Dichloroethene-d (Sum)	04	100 %	70-130	04082019 13:14	04082019 13:14							
Sum: 4-Dimethylaminopyrene (Sum)	04	66.3 %	70-130	04082019 13:14	04082019 13:14							
Sum: Ethene-dichloroethene (Sum)	04	99.8 %	70-130	04082019 13:14	04082019 13:14							
Sum: Toluene-d0 (Sum)	04	101 %	70-130	04082019 13:14	04082019 13:14							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1909181-48

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cadmium	03	7440-48-4	8260-10C	04/04/2019 17:30	04/05/2019 15:52	4.8		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909191-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-68-8	SW82000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	79-34-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	79-38-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	95-18-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	107-06-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	78-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
2-Methoxy (MFC)	05	75-55-3	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.05	0.05	1	ug/L	KCS
2-Methoxy (MFC)	05	521-78-8	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		2.20	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MFK)	05	109-10-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	3.00	1	ug/L	KCS
Axylene	05	87-66-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	3.00	1	ug/L	KCS
Benzene	05	71-43-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-87-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	05	79-25-2	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	05	75-18-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW82005	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-3**

Laboratory Sample ID: **1909181-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-03-3	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW826000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	08	156-60-2	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
cis-1,2-Dichloropropene	08	10001-01-0	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	136-48-1	SW826000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	08	78-98-4	SW826000	04/08/2019 13:37	04/08/2019 13:37	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-37-1	SW826000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-1	SW826000	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-1	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.85	1.00	1	ug/L	KCS
trans-1,2-Dichloropropene	08	10001-02-8	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-68-4	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW826008	04/08/2019 13:37	04/08/2019 13:37	BL00		0.80	0.80	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-3

Laboratory Sample ID: 1909181-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	05	1330-20-1	SW8260B	04082019 13:37	04082019 13:37	BLDD		1.00	3.00	1	ug/L	MS
Sum: 1,2-Dichloroethane (Sum)	05	107-06-6	70-130	04082019 13:37	04082019 13:37							
Sum: 1,1-Dichloroethene (Sum)	05	75-35-4	70-130	04082019 13:37	04082019 13:37							
Sum: 1,1,1-Trichloroethene (Sum)	05	70-133-7	70-130	04082019 13:37	04082019 13:37							
Sum: 1,1,2-Trichloroethene (Sum)	05	70-130	70-130	04082019 13:37	04082019 13:37							
Sum: Toluene (Sum)	05	108-88-3	70-130	04082019 13:37	04082019 13:37							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1909161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	08	75005-6	8060100	04/04/2019 17:30	04/05/2019 16:54	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **190919-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	630-20-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-68-8	SW82000	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	78-24-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	79-38-4	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	95-19-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	107-06-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	08	78-87-5	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	08	75-93-3	SW82002	04/08/2019 13:59	04/08/2019 13:59	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	521-78-8	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	109-10-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	5.00	1	ug/L	KCS
Acetone	08	67-66-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	08	74-97-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	08	79-25-2	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	08	75-16-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Chloroform	08	108-90-7	SW82008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-5**

Laboratory Sample ID: **1809181-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-03-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-69-2	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10001-01-0	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	134-48-1	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.85	0.80	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	08	78-88-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	08	119601-37-1	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
tert-Butylbenzene (TBB)	08	127-18-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-3	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	08	156-65-1	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10001-02-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-87-8	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	71-68-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW826008	04/08/2019 13:59	04/08/2019 13:59	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-5

Laboratory Sample ID: 1809161-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	08	1515-25-1	SW82608	04/08/2019 13:59	04/08/2019 13:59	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: 1,1-Dichloroethane-04 (Sum)	08	99.9 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: Ethylchloride-04 (Sum)	08	100 %	75-130	04/08/2019 13:59	04/08/2019 13:59							
Sum: Toluene-04 (Sum)	08	94.8 %	75-130	04/08/2019 13:59	04/08/2019 13:59							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1600 Series Methods												
Cadmium	07	7440-48-4	8260-100	04/04/2019 17:30	04/05/2019 15:56	36.5		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809181-07**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	630-20-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethene	07	71-68-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	07	79-34-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	07	79-00-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	07	79-34-3	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	07	71-35-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,2-Dichloroethane	07	80-10-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	07	85-53-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
1,3-Dichlorobenzene	07	107-06-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.70	1.00	1	ug/L	KCB
1,3-Dichloropropene	07	78-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.04		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	07	106-46-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	4.82		0.40	1.00	1	ug/L	KCB
Chloroform (MCL)	07	78-09-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	3.00	1	ug/L	KCB
2-Hexanone (MCL)	07	59-79-8	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		2.20	3.00	1	ug/L	KCB
4-Methyl-2-pentanone (MMP)	07	106-10-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	3.00	1	ug/L	KCB
Acetone	07	67-64-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		7.50	10.0	1	ug/L	KCB
Acrylonitrile	07	107-13-1	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	3.00	1	ug/L	KCB
Benzene	07	71-42-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.11		0.40	1.00	1	ug/L	KCB
Bromochloromethane	07	74-87-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Bromodichloromethane	07	75-27-4	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	0.50	1	ug/L	KCB
Bromofluoromethane	07	75-25-2	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	07	74-83-6	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCB
Carbon disulfide	07	75-15-0	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		1.50	10.0	1	ug/L	KCB
Carbon tetrachloride	07	56-23-5	SW82000	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCB
Chlorobenzene	07	108-90-7	SW82000	04/08/2019 14:21	04/08/2019 14:21	1.89		0.40	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	3.91		0.70	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	0.80	1	ug/L	KCS
Chloromethane	07	74-87-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	07	156-60-2	SW82600	04/08/2019 14:21	04/08/2019 14:21	31.8		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	1001-07-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	07	13466-1	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	0.50	1	ug/L	KCS
Dibromomethane	07	74-90-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	79-71-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	07	74-98-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	07	119601-25	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	2.00	1	ug/L	KCS
Methylcyclohexane	07	75-06-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Octane	07	100-82-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-2	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	07	156-60-3	SW82600	04/08/2019 14:21	04/08/2019 14:21	0.70	J	0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	1001-07-5	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-67-6	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-8	SW82600	04/08/2019 14:21	04/08/2019 14:21	1.21		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-89-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	BL00		0.30	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW82600	04/08/2019 14:21	04/08/2019 14:21	4.82		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909161-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	07	1330-20-7	SM5000B	04/09/2019 14:21	04/09/2019 14:21	BL00		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	07	104	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: 4-Bromofluorobenzene (Sum)	07	87-3	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: 2-Bromoethoxyethane (Sum)	07	101	%	75-130	04/09/2019 14:21	04/09/2019 14:21						
Sum: Toluene-d8 (Sum)	07	98-8	%	75-130	04/09/2019 14:21	04/09/2019 14:21						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/1000 Series Methods												
Cadmium	08	7440-48-4	8060-100	04/04/2019 17:30	04/05/2019 16:58	17.2		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1909181-08**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	639-20-9	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	08	71-55-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	78-34-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.71	J	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,2-Ethynylbenzene	08	98-19-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	85-50-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	08	107-06-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropene	08	78-87-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	3.82		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	08	78-92-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	5.00	1	ug/L	KCS
2-Hexanone (MIBK)	08	98-19-9	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	106-10-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	08	107-13-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	3.00	1	ug/L	KCS
Benzene	08	71-43-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	0.07	J	0.30	1.00	1	ug/L	KCS
Bromochloromethane	08	74-87-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	08	75-25-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	08	74-83-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	08	58-23-5	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW82000	04/08/2019 14:44	04/08/2019 14:44	1.31		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **1809161-08**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-05-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	08	156-59-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10021-04-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	08	13468-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	08	74-93-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	08	105-41-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Hexachlorocyclopentadiene	08	74-88-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	08	17821-05-1	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-2	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-3	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10021-03-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	115-87-8	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-35-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW82000	04/08/2019 14:44	04/08/2019 14:44	2.37		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1333-20-1	SW826008	04/08/2019 14:44	04/08/2019 14:44	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	08	107	%	75-130	04/08/2019 14:44	04/08/2019 14:44						
Sum: 1,1-Dichloroethane (Sum)	08	88-4	%	75-130	04/08/2019 14:44	04/08/2019 14:44						
Sum: Ethylchloroformate (Sum)	08	101	%	75-130	04/08/2019 14:44	04/08/2019 14:44						
Sum: Toluene (Sum)	08	95-2	%	75-130	04/08/2019 14:44	04/08/2019 14:44						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1909181-09

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Unit	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	09	75930-64-8	8260/1631	04/04/2019 17:30	04/05/2019 16:01	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1809181-09**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	09	630-20-8	SW82009	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	09	71-68-8	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	09	79-34-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW82005	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	78-34-3	SW82006	04/08/2019 15:00	04/08/2019 15:00	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW82003	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,2-Ethynylbenzene	09	80-10-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	85-53-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	09	107-06-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropene	09	78-87-5	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW82000	04/08/2019 15:00	04/08/2019 15:00	4.31		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	09	78-93-2	SW82009	04/08/2019 15:00	04/08/2019 15:00	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	09	99-10-8	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBP)	09	109-10-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.50	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	09	107-13-1	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.70	3.00	1	ug/L	KCS
Benzene	09	71-43-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	1.48		0.50	1.00	1	ug/L	KCS
Bromochloromethane	09	74-87-5	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	09	75-27-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	09	75-23-2	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	09	74-83-6	SW82008	04/08/2019 15:00	04/08/2019 15:00	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		1.80	10.0	1	ug/L	KCS
Carbon tetrachloride	09	58-23-5	SW82000	04/08/2019 15:00	04/08/2019 15:00	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	09	108-90-7	SW82000	04/08/2019 15:00	04/08/2019 15:00	1.41		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1E**

Laboratory Sample ID: **1909161-09**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-05-3	SW82009	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW82008	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	09	156-59-2	SW82005	04/08/2019 15:00	04/08/2019 15:00	ND		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10021-04-8	SW82006	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	09	13466-1	SW82003	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	09	74-95-3	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Hexachlorocyclopentadiene	09	74-88-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.70	10.0	1	ug/L	KCS
o,p'-DDE	09	17862-01-0	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	09	75-09-2	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-8	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	09	100-42-3	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	09	108-88-2	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-3	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10021-03-8	SW82006	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-87-8	SW82005	04/08/2019 15:00	04/08/2019 15:00	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	09	79-07-6	SW82000	04/08/2019 15:00	04/08/2019 15:00	3.68		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	79-09-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW82000	04/08/2019 15:00	04/08/2019 15:00	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW82008	04/08/2019 15:00	04/08/2019 15:00	0.88		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1E

Laboratory Sample ID: 1809181-09

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	09	1333-20-7	SW82609	04/09/2019 15:08	04/09/2019 15:08	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	09	100 %	75-130	04/09/2019 15:08	04/09/2019 15:08							
Sum: 1,1-Dichloroethane (Sum)	09	99.9 %	75-130	04/09/2019 15:08	04/09/2019 15:08							
Sum: Ethoxyethoxyethane (Sum)	09	99.9 %	75-130	04/09/2019 15:08	04/09/2019 15:08							
Sum: Toluene (Sum)	09	99.9 %	75-130	04/09/2019 15:08	04/09/2019 15:08							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	18	75005-6	8000-700	04/04/2019 17:30	04/05/2019 16:03	BLGD		2.0	4.0	1	ug/L	SNL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **1909181-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	10	630-20-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-68-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	10	79-34-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	10	78-24-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Ethynylbenzene	10	80-18-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	10	85-50-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	10	107-06-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropene	10	78-87-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-46-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	0.58	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	10	78-93-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	10	99-10-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	109-10-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.50	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		7.50	10.0	1	ug/L	KCS
Arylene	10	107-13-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	10	78-25-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	10	74-83-9	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	58-23-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	10	108-90-7	SW82000	04/08/2019 15:28	04/08/2019 15:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1F**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-05-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	10	156-59-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	13.1		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10001-04-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	10	13466-1	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	10	74-93-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	10	74-88-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.70	10.0	1	ug/L	KCS
n-Propylbenzene	10	17899-29-5	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.60	2.00	1	ug/L	KCS
Methyl ethyl ketone	10	78-09-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	10	95-47-6	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	10	100-42-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	10	108-88-2	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-3	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10001-03-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	110-87-8	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	10	79-07-6	SW82000	04/08/2019 15:28	04/08/2019 15:28	1.88		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	72-69-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	10	75-01-4	SW82000	04/08/2019 15:28	04/08/2019 15:28	0.55		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1F

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1330-20-7	SW826008	04/08/2019 15:28	04/08/2019 15:28	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	18	67-74-0	75-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 1,1-Dichloroethane (Sum)	18	75-34-8	75-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: 1,1,1-Trichloroethane (Sum)	18	70-13-8	75-130	04/08/2019 15:28	04/08/2019 15:28							
Sum: Toluene-d8 (Sum)	18	97-53-0	75-130	04/08/2019 15:28	04/08/2019 15:28							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1631 Series Methods												
Cobalt	11	75005-6	8260/1631	04/04/2019 17:30	04/05/2019 16:08	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-10**

Laboratory Sample ID: **190919-11**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	11	630-20-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	11	71-55-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	11	79-34-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	11	79-00-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	11	79-34-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	4.38		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	11	75-35-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	11	88-19-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	11	85-53-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	11	107-06-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	11	79-37-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	11	106-46-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.48		0.40	1.00	1	ug/L	KCS
2-Pentanone (MIX)	11	78-92-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
2-Pentanone (MIX)	11	981-79-9	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		2.00	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	11	106-10-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	5.00	1	ug/L	KCS
Acetone	11	67-64-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		7.50	10.0	1	ug/L	KCS
Arylonitrile	11	107-13-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.70	3.00	1	ug/L	KCS
Benzene	11	71-43-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.01		0.50	1.00	1	ug/L	KCS
Bromochloromethane	11	74-87-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	11	75-27-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	11	75-23-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	11	74-83-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	11	75-15-0	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	11	58-23-5	SW82000	04/08/2019 15:50	04/08/2019 15:50	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	11	108-90-7	SW82000	04/08/2019 15:50	04/08/2019 15:50	0.54	J	0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-10

Laboratory Sample ID: 1909181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	11	67-66-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	11	74-87-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	11	156-59-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	18.4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	11	10061-01-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	11	106466-1	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	11	75-95-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	11	75-71-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	11	105-41-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	11	74-98-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	11	178601-25	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	11	75-09-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	11	95-47-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	11	105-65-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PCE)	11	127-18-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	11	108-88-2	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	11	156-60-3	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	11	10061-02-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	11	115-87-8	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		1.50	6.00	1	ug/L	KCS
Trichloroethylene	11	79-07-6	SW82000	04/08/2019 15:50	04/08/2019 15:50	2.74		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	11	79-09-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	11	108-05-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	11	75-01-4	SW82000	04/08/2019 15:50	04/08/2019 15:50	1.54		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-10

Laboratory Sample ID: 1809181-11

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	11	1515-20-1	SW8260B	04/08/2019 15:50	04/08/2019 15:50	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	11	68-12-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 1,1-Dichloroethane-d4 (Sum)	11	75-35-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 1,1,1-Trichloroethane-d4 (Sum)	11	70-12-0	75-130	04/08/2019 15:50	04/08/2019 15:50							
Sum: 1,1,2-Trichloroethane-d4 (Sum)	11	75-35-0	75-130	04/08/2019 15:50	04/08/2019 15:50							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1909181-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8260/1600 Series Methods												
Cobalt	12	75909-6-6	8260/1600	04/04/2019 17:30	04/05/2019 16:11	BLD		2.0	4.0	1	µg/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **190919-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	12	600-29-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	12	71-68-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	12	79-34-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Dichloroethane	12	79-00-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethene	12	79-34-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	1.88		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	12	75-35-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	80-19-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	12	85-53-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	12	107-06-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethyne	12	79-87-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	12	106-46-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	0.73	J	0.40	1.00	1	ug/L	KCS
2-Pentanone (MIBK)	12	78-29-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	3.00	1	ug/L	KCS
2-Hexanone (MIBK)	12	99-10-9	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		2.00	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	12	109-10-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.50	3.00	1	ug/L	KCS
Acetone	12	63-08-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		7.50	10.0	1	ug/L	KCS
Arylene	12	107-03-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.70	3.00	1	ug/L	KCS
Benzene	12	71-43-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.50	1.00	1	ug/L	KCS
Bromochloromethane	12	74-97-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	12	75-27-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	12	79-29-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	12	74-83-9	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	12	75-15-0	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	12	58-23-5	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	12	106-90-7	SW82000	04/08/2019 16:12	04/08/2019 16:12	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-1H**

Laboratory Sample ID: **180919-12**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-05-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	12	74-87-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	12	156-59-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	PL4		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	12	10021-04-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	12	10648-1	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	12	74-95-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	12	75-71-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	12	100-41-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Hexachlorocyclopentadiene	12	74-88-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.70	10.0	1	ug/L	KCS
o,p-Dibromodiphenyl ether	12	178621-25	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	12	75-09-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	12	95-47-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	12	100-42-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	12	127-18-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	12	108-88-2	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	12	156-60-3	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	12	10021-03-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	12	115-87-8	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	12	79-07-6	SW82000	04/08/2019 16:12	04/08/2019 16:12	2.85		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	12	79-09-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	12	108-05-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	12	75-01-4	SW82000	04/08/2019 16:12	04/08/2019 16:12	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-1H

Laboratory Sample ID: 1909181-12

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	12	1330-20-7	SW8260B	04/08/2019 16:12	04/08/2019 16:12	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	12	109-66-5	70-130	04/08/2019 16:12	04/08/2019 16:12							
Sum: 1,1-Dichloroethane (Sum)	12	78-07-1	70-130	04/08/2019 16:12	04/08/2019 16:12							
Sum: 1,1,1-Trichloroethane (Sum)	12	79-11-8	70-130	04/08/2019 16:12	04/08/2019 16:12							
Sum: 1,1,2-Trichloroethane (Sum)	12	78-07-1	70-130	04/08/2019 16:12	04/08/2019 16:12							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1809181-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cobalt	11	7440-50-6	8060-100	04/04/2019 17:30	04/05/2019 16:17	BLD		2.0	4.0	1	ug/L	SM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **190919-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	11	830-20-8	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	12	71-68-8	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	13	79-34-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Difluoroethane	14	79-00-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
1,1-Difluoroethane	15	78-24-2	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethane	16	78-28-4	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.70	1.00	1	ug/L	KCS
1,2-Difluoroethane	17	95-18-4	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	95-50-1	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
1,3-Difluoroethane	19	107-08-2	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	20	78-87-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
1,4-Difluorobenzene	21	106-46-7	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	22	75-55-5	SW82009	04/08/2019 18:34	04/08/2019 18:34	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	23	99-79-8	SW82009	04/08/2019 18:34	04/08/2019 18:34	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	24	106-10-1	SW82009	04/08/2019 18:34	04/08/2019 18:34	BL00		1.50	3.00	1	ug/L	KCS
Acetone	25	67-66-1	SW82009	04/08/2019 18:34	04/08/2019 18:34	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	26	107-13-1	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		1.70	5.00	1	ug/L	KCS
Benzene	27	71-40-2	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	28	74-97-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	29	75-27-4	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	30	75-25-2	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	31	74-83-9	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Carbon disulfide	32	75-18-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	33	56-23-5	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Chloroform	34	108-90-7	SW82008	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-11**

Laboratory Sample ID: **1909181-13**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	11	75-05-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	13	74-87-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-69-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	16	10001-01-0	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.85	0.80	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.55	1.00	1	ug/L	KCS
Dibutylene	20	100-81-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Dibromethane	21	78-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	22	175001-27	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	23	75-09-2	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	24	95-47-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Styrene	25	106-42-5	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	26	127-18-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Toluene	27	108-88-3	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	28	156-65-1	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	29	10001-02-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	30	110-87-8	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	31	79-01-6	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	32	76-88-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	33	108-05-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	34	75-01-4	SW82000	04/08/2019 18:34	04/08/2019 18:34	BL00		0.80	0.80	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-11

Laboratory Sample ID: 1909191-13

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	11	15.00-20.7	SW826008	04/09/2019 16:34	04/09/2019 16:34	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	11	107 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: 1,1-Dichloroethene (Sum)	11	95.2 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: Ethenechloroethene (Sum)	11	100 %	79-120	04/09/2019 16:34	04/09/2019 16:34							
Sum: Toluene-08 (Sum)	11	94.3 %	79-120	04/09/2019 16:34	04/09/2019 16:34							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-32

Laboratory Sample ID: 1909161-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	14	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:28	BLD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: MW-02

Laboratory Sample ID: 190919-14

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	14	630-20-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	14	71-68-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	14	79-34-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	14	78-24-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	14	78-36-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	14	95-19-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	14	95-50-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	14	107-06-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	14	78-87-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	14	106-46-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	0.72	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	14	78-93-3	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		3.00	5.00	1	ug/L	KCS
2-Heptanone (MIBK)	14	99-178-8	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	14	106-10-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	14	67-66-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	14	107-13-1	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	14	71-43-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	1.43		0.40	1.00	1	ug/L	KCS
Bromochloromethane	14	74-97-0	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	14	75-27-4	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	14	78-25-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	14	74-83-6	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Carbon disulfide	14	75-15-2	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	14	56-23-5	SW82000	04/08/2019 16:56	04/08/2019 16:56	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	14	106-90-7	SW82000	04/08/2019 16:56	04/08/2019 16:56	0.38		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1909161-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	14	75-05-3	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	14	67-66-3	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	14	74-87-3	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	14	156-69-2	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	14	10061-01-8	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	14	124-48-1	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.85	0.90	1	ug/L	KCS
Dibromomethane	14	74-95-3	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	14	75-71-8	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	14	100-41-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	14	78-88-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	14	119601-27	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	14	75-09-2	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		3.80	4.00	1	ug/L	KCS
o-Xylene	14	95-47-8	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Styrene	14	106-92-5	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	14	127-18-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Toluene	14	108-88-1	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	14	156-65-1	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	14	10061-02-8	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	14	110-87-8	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		1.80	4.00	1	ug/L	KCS
Trichloroethylene	14	79-01-6	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	14	71-68-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	14	108-05-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	14	75-01-4	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **MW-X2**

Laboratory Sample ID: **1909191-14**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Arynes, Total	14	1533-25-1	SW8260B	04/08/2019 16:56	04/08/2019 16:56	BLOD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane (Sum)	14	100 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: 1,1-Dichloroethane (Sum)	14	99.8 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: Ethenechloroethane (Sum)	14	100 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Sum: Toluene (Sum)	14	99.1 %	70-120	04/08/2019 16:56	04/08/2019 16:56							
Head Space Analysis by GC												
Methane	14821	74-82-8	MS175M	04/15/2019 11:34	04/15/2019 11:34	2290		14.5	25.0	1	ug/L	DFH
Sum Analytes (Sum)	14821	100 %	70-120	04/15/2019 11:34	04/15/2019 11:34							
Wet Chemistry Analysis												
Alkalinity	14	NA	SM21 2009-0511	04/15/2019 15:07	04/15/2019 15:15	212		5.0	5.0	1	mg/L	TMB
Chloride	14	16887-05-8	EPA300.0 M-1	04/05/2019 15:48	04/05/2019 15:47	15.0		0.5	1.0	1	mg/L	BC
Nitrate as N	14	14797-55-8	Calc.	04/11/2019 14:28	04/11/2019 14:27	BLOD		0.110	0.150	1	mg/L	PHM
Nitrate-Nitrite as N	14	NA	SM22 2009-0511	04/10/2019 14:28	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	RLM
Nitrite as N	14	14797-55-8	SM22 2009-0511	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	14	14808-79-8	EPA300.0 M-1	04/05/2019 15:43	04/05/2019 15:47	7.4		0.5	1.0	1	mg/L	BC
Sulfide	14	16888-09-8	SM215	04/08/2019 17:22	04/08/2019 17:22	BLOD		0.00	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	15	7439974	847475A	04/11/2019 08:50	04/11/2019 13:40	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	15	630-20-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	15	71-68-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	15	79-34-5	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	15	79-00-5	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	79-34-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	4.44		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	15	75-35-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.70	1.00	1	ug/L	KCS
1,2,2-Trichloropropane	15	88-19-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	85-83-1	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	15	107-98-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	79-87-5	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	15	106-48-7	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	15	79-93-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	15	99-79-8	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	15	106-10-1	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		1.50	5.00	1	ug/L	KCS
Acetone	15	67-64-1	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	15	107-13-1	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		1.70	5.00	1	ug/L	KCS
Benzene	15	71-43-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	15	74-97-5	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.30	1.00	1	ug/L	KCS
Bromodichloromethane	15	75-27-4	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	15	79-25-2	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	15	74-83-9	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	15	75-15-3	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	15	50-23-5	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.90	1.00	1	ug/L	KCS
Chlorobenzene	15	108-90-7	SW82000	04/08/2019 17:19	04/08/2019 17:19	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Client Sample ID: **CLP-15A**

Laboratory Sample ID: **190919-15**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-05-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	15	67-66-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	15	74-87-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	15	156-59-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	14.3		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	15	10021-04-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	15	13466-1	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	15	74-93-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	15	75-71-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	15	105-41-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Isobutane	15	74-98-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.70	10.0	1	ug/L	KCS
m,p-Xylene	15	17960-09-5	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	15	75-09-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	15	95-47-6	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	15	100-02-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Tetrafluoroethylene (PFE)	15	127-18-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	15	108-88-2	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	15	156-60-3	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	15	10021-02-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	15	155-87-8	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		1.00	6.00	1	ug/L	KCS
Trichloroethylene	15	79-07-6	SW82600	04/08/2019 17:19	04/08/2019 17:19	6.19		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	15	72-69-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	15	108-05-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	15	75-01-4	SW82600	04/08/2019 17:19	04/08/2019 17:19	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	15	1515-20-7	SW8260B	04092019 17:19	04092019 17:19	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene-d4 (Sum)	15	104 %	75-130	04092019 17:19	04092019 17:19							
Sum: 1,1-Dibromoethene (Sum)	15	94.2 %	75-130	04092019 17:19	04092019 17:19							
Sum: 1,2-Dibromoethene (Sum)	15	97.9 %	75-130	04092019 17:19	04092019 17:19							
Sum: Toluene-d8 (Sum)	15	99.1 %	75-130	04092019 17:19	04092019 17:19							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 1809181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	15	74-82-6	MS/17MM	04/15/2019 10:42	04/15/2019 10:43	442		2.0	5.0	1	µg/L	CHS
Sum Analytes (Sum)	15	100 %	75-130	04/15/2019 10:43	04/15/2019 10:43							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 1909181-15

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	15	na	SM22 2520B-2011	04/15/2019 15:07	04/15/2019 15:18	100		0.0	0.0	1	mg/L	TMB
Chloride	15	98887-00-8	EPA300.0 82.1	04/08/2019 20:54	04/09/2019 20:54	88.3		0.5	1.0	1	mg/L	BG
Nitrate as N	15	14797-65-8	Coli	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.150	0.150	1	mg/L	PHM
Nitrosodichloro as N	15	na	SM22 4500-NO3-M 3011	04/16/2019 13:41	04/16/2019 13:41	BLOD		0.10	0.10	1	mg/L	BW03
Nitrite as N	15	14797-65-8	SM22 4500-NO2- 3011	04/04/2019 07:32	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	15	14808-79-8	EPA300.0 82.1	04/08/2019 20:54	04/08/2019 20:54	91.4		0.5	1.0	1	mg/L	BG
Sulfide	15	15428-25-8	SW6215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:47	0.23		0.20	0.20	1	ug/L	MMJ

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **PZ-4E**

Laboratory Sample ID: **1809161-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	18	630-20-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-68-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	18	96-18-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	107-08-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	78-87-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	18	75-56-5	SW82009	04/08/2019 17:41	04/08/2019 17:41	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	531-78-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	18	74-87-8	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloroethane	18	75-27-4	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluorobenzene	18	79-25-2	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	18	75-18-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		1.50	5.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 17:41	04/08/2019 17:41	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	18	156-59-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	1.80		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10021-04-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
Dibromodichloromethane	18	13468-1	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.55	0.50	1	ug/L	KCS
Dibromomethane	18	74-96-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.85	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Hexachloroethane	18	74-88-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylene	18	17809-29-1	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		3.00	6.00	1	ug/L	KCS
o-Xylene	18	95-47-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	150-43-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	18	127-18-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-2	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	18	156-60-3	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10021-03-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	610-87-8	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		1.00	6.00	1	ug/L	KCS
Trichloroethylene	18	79-07-6	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.58	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	72-69-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 17:41	04/08/2019 17:41	0.57		0.30	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1515-20-1	8965008	04082019 17:41	04082019 17:41	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-04 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 1,1-Dichloroethane-04 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 1,1,1-Trichloroethane-04 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: 1,1,2-Trichloroethane-04 (Sum)	18		75-130	04082019 17:41	04082019 17:41							
Sum: Toluene-04 (Sum)	18		75-130	04082019 17:41	04082019 17:41							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1909161-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	18	74-82-6	MS/17PM	04/15/2019 10:58	04/15/2019 10:58	2560		12.0	25.0	1	µg/L	DFH
Sum Analytes (Sum)	18	100 %	75-100	04/15/2019 10:58	04/15/2019 10:58							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 1809181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	18	na	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	25.2		0.2	0.2	1	mg/L	TMB
Chloride	18	98887-00-8	EPA300.0 R2.1	04/08/2019 21:18	04/08/2019 21:18	2.3		0.5	1.0	1	mg/L	BG
Nitrate as N	18	14797-05-8	Calc.	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.150	0.150	1	mg/L	PHM
Nitrate/nitrite as N	18	na	SM22 4500-NO3F-2011	04/11/2019 14:27	04/11/2019 14:27	BLOD		0.10	0.10	1	mg/L	PHM
Nitrite as N	18	14797-05-0	SM22 4500-NO2B-2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	18	14808-79-0	EPA300.0 R2.1	04/08/2019 21:16	04/08/2019 21:16	BLOD		0.5	1.0	1	mg/L	BG
Sulfide	18	18498-25-8	SW9215	04/08/2019 17:20	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	17	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:43	BL00		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	17	630-20-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	17	71-55-6	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	17	79-34-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	17	79-00-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	17	79-34-3	SW82000	04/08/2019 18:00	04/08/2019 18:03	0.84	✓	0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	17	75-35-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	80-12-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	17	85-53-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	17	107-06-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	17	78-37-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	17	106-46-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	17	78-93-3	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	17	99-79-8	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	17	106-10-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.50	5.00	1	ug/L	KCS
Axetone	17	67-64-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	17	107-13-1	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	17	71-43-2	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	17	74-97-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	17	75-27-4	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	17	79-25-3	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	17	74-83-9	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	17	75-15-0	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	17	50-23-5	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.50	1.00	1	ug/L	KCS
Chloroethane	17	108-90-7	SW82000	04/08/2019 18:00	04/08/2019 18:03	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 190919-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	17	75-05-3	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	17	67-66-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	17	74-87-3	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	17	156-69-2	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	17	10061-01-9	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	134-48-1	SW82002	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	0.80	1	ug/L	KCS
Dibromomethane	17	74-95-3	SW82002	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	17	75-71-8	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	17	100-41-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	17	78-88-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		1.70	10.0	1	ug/L	KCS
m-p-Xylene	17	11961-27-3	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	17	75-09-2	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	17	95-47-8	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Styrene	17	100-42-5	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
tert-Butylbenzene (TBB)	17	127-18-4	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Toluene	17	108-88-3	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	17	156-65-1	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	17	10061-03-8	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	17	110-67-8	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	17	79-01-6	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	17	71-68-4	SW82005	04/08/2019 18:00	04/08/2019 18:00	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	17	108-05-4	SW82008	04/08/2019 18:00	04/08/2019 18:00	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	17	75-01-4	SW82000	04/08/2019 18:00	04/08/2019 18:00	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydrocs, Total	17	1515-20-1	SW82608	04/08/2019 18:00	04/08/2019 18:00	BLDD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene-04 (Sum)	17	107 %	75-130	04/08/2019 18:00	04/08/2019 18:00							
Sum: 1,1-Dibromoethene-04 (Sum)	17	95.4 %	75-130	04/08/2019 18:00	04/08/2019 18:00							
Sum: 1,2-Dibromoethene-04 (Sum)	17	100 %	75-130	04/08/2019 18:00	04/08/2019 18:00							
Sum: Toluene-08 (Sum)	17	98.7 %	75-130	04/08/2019 18:00	04/08/2019 18:00							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909181-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Need Spouse Analysis by GC												
Methane	17	74-82-6	MS/17PM	04/15/2019 11:09	04/15/2019 11:09	BL00		0.9	5.0	1	ug/L	CHS
Sum Analytes (Sum)	17		75-130	04/15/2019 11:09	04/15/2019 11:09							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-83

Laboratory Sample ID: 1909161-17

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	17	na	SM22 25209-2011	04/15/2019 15:05	04/15/2019 15:18	82.8		0.0	0.0	1	mg/L	TMB
Chloride	17	98897-00-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	4.3		0.5	1.0	1	mg/L	BG
Nitrate as N	17	14797-05-8	Calc.	04/11/2019 14:27	04/11/2019 14:27	0.221		0.150	0.150	1	mg/L	PHM
Nitrate+Nitrite as N	17	na	SM22 4500-NO3F- 2011	04/11/2019 14:27	04/11/2019 14:27	0.23		0.10	0.10	1	mg/L	PHM
Nitro as N	17	14797-05-0	SM22 4500-NO2B- 2011	04/04/2019 07:30	04/04/2019 15:41	BLOD		0.01	0.05	1	mg/L	PHM
Sulfate	17	14808-79-8	EPA300.0 R2.1	04/08/2019 21:38	04/08/2019 21:38	51.9		0.5	1.0	1	mg/L	BG
Sulfide	17	18496-25-8	SW9215	04/08/2019 17:22	04/08/2019 17:23	BLOD		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-320

Laboratory Sample ID: 1909181-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	18	7439974	847475A	04/11/2019 09:50	04/11/2019 13:40	BLD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-X20**

Laboratory Sample ID: **190919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	18	830-20-9	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trifluoroethane	18	71-68-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	18	79-34-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trifluoroethane	18	79-00-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	78-24-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	79-38-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	18	96-18-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	18	107-06-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	18	78-87-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	18	75-35-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	18	551-78-8	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	109-10-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	5.00	1	ug/L	KCS
Acetone	18	67-66-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		7.50	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-97-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	18	79-25-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	18	75-18-5	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		1.50	10.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW82008	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:13PM**

Client Sample ID: **MW-K20**

Laboratory Sample ID: **180919-18**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-05-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	18	156-59-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10001-01-0	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	124-48-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	0.85	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	18	78-88-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	18	119501-20	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	18	95-47-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
tert-Butylbenzene (TBB)	18	127-18-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-3	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	18	156-60-1	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.85	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10001-02-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-87-8	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	18	79-01-6	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	75-68-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW82000	04/08/2019 18:28	04/08/2019 18:28	BL00		0.80	0.80	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: MW-X20

Laboratory Sample ID: 1909191-18

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	18	1515-25-1	SW8260B	04/09/2019 18:26	04/09/2019 18:26	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,2-Dichloroethane-d4 (Sum)	18	100 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: 4-Bromofluorobenzene (Sum)	18	87.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Dibromofluorobenzene (Sum)	18	104 %	75-130	04/09/2019 18:26	04/09/2019 18:26							
Sum: Toluene-d8 (Sum)	18	86.2 %	75-130	04/09/2019 18:26	04/09/2019 18:26							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-01

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	19	7439974	8474PSA	04/11/2019 08:50	04/11/2019 13:48	BLD		0.20	0.20	1	ug/L	MM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Client Sample ID: CLF-01

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	19	630-20-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	19	71-68-8	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-34-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-00-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	19	79-34-3	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	19	79-34-4	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	19	95-18-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	19	95-50-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	107-05-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	19	78-87-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	19	106-46-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	19	75-55-5	SW82009	04/08/2019 18:48	04/08/2019 18:48	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	19	531-78-8	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	19	109-10-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	19	67-66-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	19	107-13-1	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	19	71-43-2	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	19	74-97-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Bromodichloroethane	19	79-27-4	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	0.80	1	ug/L	KCS
Bromotoluene	19	79-25-2	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	19	74-83-9	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	19	75-16-5	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		1.50	50.0	1	ug/L	KCS
Carbon tetrachloride	19	56-23-5	SW82000	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.30	1.00	1	ug/L	KCS
Chlorobenzene	19	108-90-7	SW82008	04/08/2019 18:48	04/08/2019 18:48	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	19	75-05-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	19	67-66-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	19	74-87-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	19	156-59-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	19	10001-01-0	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	19	134-48-1	SW82000	04/09/2019 15:47	04/09/2019 15:48	BL00		0.85	0.80	1	ug/L	KCS
Dibromomethane	19	74-95-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.55	1.00	1	ug/L	KCS
Ethylbenzene	19	100-41-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
Isobutene	19	78-88-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	19	175001-27	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.80	2.00	1	ug/L	KCS
Methylene chloride	19	75-09-2	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	19	95-47-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
Styrene	19	106-42-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	19	127-18-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
Toluene	19	108-88-3	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichlorobutene	19	156-65-1	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	19	10001-03-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	19	110-87-8	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	19	7901-6	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	19	71-68-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	19	108-05-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.80	10.0	1	ug/L	KCS
Vinyl chloride	19	7501-4	SW82000	04/09/2019 15:48	04/09/2019 15:48	BL00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Client Sample ID: CLF-81

Laboratory Sample ID: 1909181-19

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Nyenes, Total	19	1320-20-7	SW8260B	04/09/2019 18:48	04/09/2019 18:48	BL00		1.00	3.00	1	ug/L	WCS
Sum: 1,3-Dichlorobenzene-d4 (Sum)	19	95-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 1,3-Dibromobenzene-d4 (Sum)	19	95-2	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: 2,3-Dibromobenzene-d4 (Sum)	19	95-4	79-130	04/09/2019 18:48	04/09/2019 18:48							
Sum: Toluene-d8 (Sum)	19	95-0	79-130	04/09/2019 18:48	04/09/2019 18:48							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Method (Title) by EPA 8000-7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
Batch BCD00198 - EPA200.2/MSL										
Blank (BCD0198-BLKT)										
Cobalt	BLOD	4.0	ug/L							
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
LCS (BCD0198-BL1)										
Cobalt	498	4.0	ug/L	500		99.6	80-120			
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
LCS Dup (BCD0198-BL51)										
Cobalt	508	4.0	ug/L	500		99.6	80-120	0.118	20	
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
Matrix Spike (BCD0198-MS1)										
Cobalt	521	4.0	ug/L	500	98.2	100	75-125			
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
Matrix Spike (BCD0198-MS3)										
Cobalt	492	4.0	ug/L	500	BLOD	98.5	75-125			
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
Matrix Spike Dup (BCD0198-MS21)										
Cobalt	505	4.0	ug/L	500	98.2	101	75-125	0.688	20	
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
Matrix Spike Dup (BCD0198-MS20)										
Cobalt	487	4.0	ug/L	500	BLOD	98.4	75-125	0.873	20	
				Prepared: 04/04/2019 Analyzed: 04/05/2019						
Batch BCD00199 - SW1470A										
Blank (BCD00199-BLKT)										
Mercury	BLOD	0.20	ug/L							
				Prepared & Analyzed: 04/11/2019						
LCS (BCD00199-BL1)										
Mercury	1.34	0.20	ug/L	1.00		80.7	80-120			
				Prepared & Analyzed: 04/11/2019						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Values (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BCD00390 - SW7475A										
LCB Dup (BCD00390-B001)										
Mercury	2.88	0.20	ug/L	2.50		88.2	80-120	8.88	20	
Matrix Spike (BCD00390-M001)										
	Source: 1808175-01									
Mercury	1.54	0.20	ug/L	2.50	BL00	61.7	80-120			NS
Matrix Spike (BCD00390-M002)										
	Source: 1808188-01									
Mercury	2.58	0.20	ug/L	1.50	BL00	64.2	80-120			
Matrix Spike Dup (BCD00390-M003)										
	Source: 1808175-01									
Mercury	1.45	0.20	ug/L	2.50	BL00	58.2	80-120	8.88	20	NS
Matrix Spike Dup (BCD00390-M000)										
	Source: 1808188-01									
Mercury	2.25	0.20	ug/L	2.50	BL00	60.0	80-120	2.00	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: B000002 - BWS0008

Blank (B000002-BLANK)

Prepared & Analyzed: 04/09/2019

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,2-Dichlorobenzene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloropropane	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1-Hexane (MIX)	BL00	5.00	ug/L
2-Hexane (MIX)	BL00	5.00	ug/L
4-Methyl-2-pentane (MIX)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acrylonitrile	BL00	5.00	ug/L
Benzene	BL00	1.00	ug/L
Bromoethane	BL00	1.00	ug/L
Bromochloroethane	BL00	0.50	ug/L
Bromobenzene	BL00	1.00	ug/L
Bromomethane	BL00	1.00	ug/L
Carbon disulfide	BL00	10.0	ug/L
Carbon tetrachloride	BL00	1.00	ug/L
Chlorobenzene	BL00	1.00	ug/L
Chloroethane	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Blank (B000001-BLANK) Prepared & Analyzed: 04/09/2019										
Chlorobenzene	BL00	0.50	ug/L							
Chloroethane	BL00	1.00	ug/L							
cis-1,2-Dichloroethylene	BL00	1.00	ug/L							
cis-1,3-Dichloropropene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Isopentane	BL00	10.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							
n-Butane	BL00	1.00	ug/L							
Butane	BL00	1.00	ug/L							
Tetrachloroethylene (PCE)	BL00	1.00	ug/L							
Toluene	BL00	1.00	ug/L							
trans-1,2-Dichloroethylene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Trichlorofluoromethane	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	2.00	ug/L							
Sum 1,2-Dichloroethane-ol (Sum)	21.7		ug/L	50.0		103	70-120			
Sum 4-Bromobromobenzene (Sum)	49.8		ug/L	50.0		96.0	75-120			
Sum Dibromochloromethane (Sum)	49.1		ug/L	50.0		98.3	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00010 - 0000008										
Blank (BCD00010-BLANK)										
Prepared & Analyzed: 04/09/2019										
Sum: Ethanol-d8 (Sum)	48.8		ug/L	50.0		97.6	75-130			
LC9 (BCD00010-001)										
Prepared & Analyzed: 04/09/2019										
1,1,1,2-Tetrafluoroethane	44.5	0.4	ug/L	50.0		89.1	80-130			
1,1,1-Trichloroethane	44.9	1	ug/L	50.0		89.8	60-130			
1,1,2,2-Tetrafluoroethane	45.8	0.4	ug/L	50.0		91.6	85-130			
1,1,2-Trichloroethane	47.1	1	ug/L	50.0		94.2	75-130			
1,1-Dichloroethane	42.6	1	ug/L	50.0		85.2	70-130			
1,1-Dichloroethene	43.1	1	ug/L	50.0		86.2	70-130			
1,2-Dichloroethane	45.4	1	ug/L	50.0		90.7	75-130			
1,2-Dichloroethene	45.3	1	ug/L	50.0		90.6	70-130			
1,2-Dichlorobenzene	38.4	1	ug/L	50.0		76.8	70-130			
1,3-Dichlorobenzene	45.2	1	ug/L	50.0		90.4	75-130			
1,4-Dichlorobenzene	42.9	1	ug/L	50.0		85.7	75-130			
2-Methoxy (MMA)	41.0	0	ug/L	50.0		81.9	30-130			
2-Propanone (MIBK)	46.2	0	ug/L	50.0		92.4	50-130			
4-Methyl-2-pentanone (MIBK)	43.2	0	ug/L	50.0		86.4	60-130			
Acetone	44.4	10	ug/L	50.0		88.7	40-140			
Acrylonitrile	281	0	ug/L	250		112	70-130			
Benzene	45.3	1	ug/L	50.0		90.7	60-130			
Bromochloromethane	41.8	1	ug/L	50.0		83.6	60-130			
Bromodichloromethane	45.8	0.5	ug/L	50.0		91.7	75-130			
Bromobenzene	44.7	1	ug/L	50.0		89.4	70-130			
Bromomethane	32.0	1	ug/L	50.0		64.1	30-145			
Carbon disulfide	47.8	10	ug/L	50.0		95.7	35-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: BCD0001 - BCD0008										
LOQ (BOD001-005)										
Prepared & Analyzed: 04/09/2019										
Carbon tetrachloride	45.8	1	ug/L	50.0		51.8	50-150			
Chlorobenzene	45.8	1	ug/L	50.0		51.2	50-150			
Chloroethane	42.1	1	ug/L	50.0		54.2	50-150			
Chloroform	41.7	0.5	ug/L	50.0		51.4	50-150			
Chloroform-d2	45.8	1	ug/L	50.0		51.5	40-125			
cis-1,2-Dichloroethane	49.2	1	ug/L	50.0		55.4	70-150			
cis-1,3-Dichloropropene	46.7	1	ug/L	50.0		50.5	70-150			
Dibromochloromethane	48.1	0.5	ug/L	50.0		56.2	50-150			
Dibromomethane	49.4	1	ug/L	50.0		54.7	70-150			
Ethylbenzene	44.0	1	ug/L	50.0		58.1	70-150			
m,p-Xylene	52.7	2	ug/L	50.0		52.7	70-150			
Methylene chloride	41.8	4	ug/L	50.0		55.5	50-150			
o-Xylene	45.2	1	ug/L	50.0		50.5	50-150			
Oxene	44.8	1	ug/L	50.0		50.8	50-150			
1,2,4-Trichlorobenzene (TCE)	58.2	1	ug/L	50.0		53.2	40-150			
Toluene	45.8	1	ug/L	50.0		51.7	70-150			
trans-1,2-Dichloroethane	41.8	1	ug/L	50.0		52.8	50-150			
trans-1,3-Dichloropropene	44.7	1	ug/L	50.0		55.5	50-150			
Trichloroethylene	42.8	1	ug/L	50.0		54.8	70-150			
Trichlorofluoromethane	49.2	1	ug/L	50.0		50.8	50-150			
Vinyl chloride	49.0	0.5	ug/L	50.0		50.0	50-150			
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Sum: 1,3-Dichlorobenzene (Sum)	50.8		ug/L	50.0		53.2	70-150			
Sum: 4-Bromodibromobenzene (Sum)	49.8		ug/L	50.0		55.2	70-150			
Sum: Dibromofluoromethane (Sum)	49.8		ug/L	50.0		51.8	70-150			
Sum: Ethene (Sum)	49.0		ug/L	50.0		51.8	70-150			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: B000002 - B000008										
Extricate (B000002-008)										
Source: 1909191-02 Preserved & Analyzed: 04/08/2019										
1,1,1,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1,2,2-Tetrafluoroethane	BL00	0.40	ug/L		BL00			NA	30	
1,1,2-Trichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,1-Dibromochloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloropropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromopropane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dichloroethane	BL00	1.00	ug/L		BL00			NA	30	
1,2-Dibromoethane	BL00	1.00	ug/L		BL00			NA	30	
1,4-Dichlorobenzene	11.8	1.00	ug/L		10.8			9.47	30	
toluene (MIX)	BL00	5.00	ug/L		BL00			NA	30	
2-Hexanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
4-Methyl-2-pentanone (MIX)	BL00	5.00	ug/L		BL00			NA	30	
Acetone	50.9	10.0	ug/L		47.1			7.77	30	
Acetonitrile	BL00	5.00	ug/L		BL00			NA	30	
Benzene	1.76	1.00	ug/L		1.79			1.65	30	
Bromochloromethane	BL00	1.00	ug/L		BL00			NA	30	
Bromoethane	BL00	0.50	ug/L		BL00			NA	30	
Bromobenzene	BL00	1.00	ug/L		BL00			NA	30	
Bromomethane	BL00	1.00	ug/L		BL00			NA	30	
Carbon disulfide	BL00	10.0	ug/L		BL00			NA	30	
Carbon tetrachloride	BL00	1.00	ug/L		BL00			NA	30	
Chlorobenzene	4.73	1.00	ug/L		4.90			11.4	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: B000003 - 000000										
Duplicate (B000003-DUP1)										
Source: 1909191-02 Project & Analyzed: 04082019										
Chlorobenzene	BL00	0.50	ug/L		BL00			NA	30	
Chloroethane	BL00	1.00	ug/L		BL00			NA	30	
cis-1,2-Dichloroethylene	2.92	1.00	ug/L		3.92			6.62	30	
cis-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
Dibromochloromethane	BL00	0.50	ug/L		BL00			NA	30	
Dibromomethane	BL00	1.00	ug/L		BL00			NA	30	
Ethylbenzene	BL00	1.00	ug/L		BL00			NA	30	
Isoprene	BL00	10.0	ug/L		BL00			NA	30	
m,p-Xylene	BL00	2.00	ug/L		BL00			NA	30	
Methylcyclohexane	BL00	4.00	ug/L		BL00			NA	30	
n-Butane	BL00	1.00	ug/L		BL00			NA	30	
Butane	BL00	1.00	ug/L		BL00			NA	30	
Tetrachloroethylene (PCE)	BL00	1.00	ug/L		BL00			NA	30	
Toluene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,2-Dichloroethylene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,3-Dichloropropene	BL00	1.00	ug/L		BL00			NA	30	
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L		BL00			NA	30	
Trichloroethylene	0.38	1.00	ug/L		BL00			NA	30	
Trichlorofluoromethane	BL00	1.00	ug/L		BL00			NA	30	
Vinyl acetate	BL00	10.0	ug/L		BL00			NA	30	
Vinyl chloride	BL00	0.50	ug/L		BL00			NA	30	
Xylenes, Total	BL00	2.00	ug/L		BL00			NA	30	
Sum 1,2-Dichloroethane-ol (Clug)	30.0		ug/L	30.0		100	70-120			
Sum 4-Bromobromobenzene (Sum)	49.2		ug/L	50.0		97.8	70-120			
Sum Dibromochloromethane (Sum)	49.2		ug/L	50.0		98.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCO0001 - 000000

Duplicate (BCO0001-DUP1)		Source: 1800181-02		Prepared & Analyzed: 04/09/2019						
Sum: Total=0.0 (Sum)	48.8		ug/L	50.0	BL00	97.6	75-130			
Matrix Spike (BCO0001-MS1)		Source: 1800181-02		Prepared & Analyzed: 04/09/2019						
1,1,1,2-Tetrachloroethane	41.9	0.4	ug/L	50.0	BL00	83.8	50-130			
1,1,1-Trichloroethane	42.8	1	ug/L	50.0	BL00	85.1	50-130			
1,1,2,2-Tetrachloroethane	44.5	0.4	ug/L	50.0	BL00	89.0	50-130			
1,1,2-Trichloroethane	45.0	1	ug/L	50.0	BL00	90.0	75-125			
1,1-Dichloroethane	42.8	1	ug/L	50.0	BL00	84.7	75-135			
1,1-Dichloroethene	40.6	1	ug/L	50.0	BL00	81.2	75-130			
1,2-Dichloroethane	41.4	1	ug/L	50.0	BL00	82.8	75-125			
1,2-Dichloroethene	43.7	1	ug/L	50.0	BL00	87.4	75-120			
1,2-Dichlorobenzene	49.8	1	ug/L	50.0	BL00	99.2	75-130			
1,3-Dichlorobenzene	41.0	1	ug/L	50.0	BL00	82.1	75-120			
1,4-Dichlorobenzene	50.0	1	ug/L	50.0	BL00	100.0	75-125			
2-Chlorobenzene (MIX)	41.3	0	ug/L	50.0	BL00	82.6	50-130			
2-Chlorobenzene (MIX)	45.7	0	ug/L	50.0	BL00	91.4	50-130			
4-Methyl-2-pentanone (MIX)	43.3	0	ug/L	50.0	BL00	86.6	50-130			
Acetone	59.8	10	ug/L	50.0	47.1	94.4	40-140			
Acrylonitrile	299	0	ug/L	299	BL00	100	75-130			
Benzene	43.8	1	ug/L	50.0	1.79	94.0	50-120			
Bromochloromethane	42.4	1	ug/L	50.0	BL00	84.8	50-130			
Bromodichloromethane	43.4	0.5	ug/L	50.0	BL00	86.8	75-120			
Bromobenzene	43.1	1	ug/L	50.0	BL00	86.2	75-130			
Bromomethane	28.0	1	ug/L	50.0	BL00	56.0	30-145			
Carbon disulfide	48.8	10	ug/L	50.0	BL00	97.6	35-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	UREC	UREC Limit	RPD	RPD Limit	Qual
Batch: B000013 - B000008										
Main: Spike (B000013-001)										
Source: 1908191-02 Prepared & Analyzed: 04/08/2019										
Carbon tetrachloride	41.8	1	ug/L	50.0	BLCO	51.7	50-140			
Chlorobenzene	49.0	1	ug/L	50.0	4.90	55.3	50-120			
Chloroethane	42.3	1	ug/L	50.0	BLCO	51.4	50-120			
Chloroform	42.8	0.5	ug/L	50.0	BLCO	49.7	50-120			
Chloroform-d2	41.4	1	ug/L	50.0	BLCO	51.7	50-120			
cis-1,2-Dichloroethane	49.0	1	ug/L	50.0	3.12	55.4	70-120			
cis-1,3-Dichloropropene	42.5	1	ug/L	50.0	BLCO	50.0	70-120			
Dibromochloromethane	44.7	0.5	ug/L	50.0	BLCO	55.4	50-120			
Dibromomethane	40.9	1	ug/L	50.0	BLCO	51.8	70-120			
Ethylbenzene	42.8	1	ug/L	50.0	BLCO	55.8	70-120			
m,p-Xylene	51.8	2	ug/L	100	BLCO	55.4	70-120			
Methylene chloride	41.4	4	ug/L	50.0	BLCO	55.3	50-140			
o-Xylene	44.4	1	ug/L	50.0	BLCO	55.5	50-120			
Oxene	45.8	1	ug/L	50.0	BLCO	51.3	50-120			
1,2,4-Trichlorobenzene (TCE)	53.1	1	ug/L	100	BLCO	1.09	40-100			
Toluene	42.8	1	ug/L	50.0	BLCO	54.4	70-120			
trans-1,2-Dichloroethane	35.8	1	ug/L	50.0	BLCO	71.5	50-140			
trans-1,3-Dichloropropene	45.8	1	ug/L	50.0	BLCO	51.0	50-140			
Trichloroethylene	41.7	1	ug/L	50.0	BLCO	52.8	70-120			
Trichlorofluoromethane	38.1	1	ug/L	50.0	BLCO	75.3	50-140			
Vinyl chloride	42.9	0.5	ug/L	50.0	BLCO	50.7	50-140			
Sum: 1,3-Dichlorobenzene (Sum)	50.0		ug/L	50.0		55.8	70-120			
Sum: 4-Bromofluorobenzene (Sum)	50.0		ug/L	50.0		101	70-120			
Sum: Dibromofluoromethane (Sum)	51.3		ug/L	50.0		100	70-120			
Sum: Ethene (Sum)	49.7		ug/L	50.0		57.4	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Head Space Analysis by GC - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: BCD044H - For Prop VOC										
Blank (BCD044H-BLK)										
Prepared & Analyzed: 04/15/2019										
Methane	BLOD	5.0	ug/L							
Sum Acetylene (Sum)	490		ug/L	492		100	70-130			
LCS (BCD044H-LCS)										
Prepared & Analyzed: 04/15/2019										
Methane	209	5.0	ug/L	208		97.2	70-130			
Sum Acetylene (Sum)	446		ug/L	437		100	70-130			
Duplicate (BCD044H-DUP1)										
Source: 1809161-18 Prepared & Analyzed: 04/15/2019										
Methane	412	5.0	ug/L		443			7.22	20	
Sum Acetylene (Sum)	437		ug/L	437		100	70-130			
Matrix Spike (BCD044H-MS1)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	207	5.0	ug/L	208	BLOD	96.8	70-130			
Sum Acetylene (Sum)	492		ug/L	492		100	70-130			
Matrix Spike Dup (BCD044H-MS2)										
Source: 1809161-01 Prepared & Analyzed: 04/15/2019										
Methane	203	5.0	ug/L	208	BLOD	107	70-130	9.61	20	
Sum Acetylene (Sum)	458		ug/L	492		100	70-130			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0164 - No Prep Wet Chem										
Blank (BCD0164-BLK1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BCD0164-BS1)				Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.09	0.05	mg/L	0.100		91.0	90-120			
Matrix Spike (BCD0164-MS1)				Source: 1909181-01 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120			
Matrix Spike Dup (BCD0164-MS2)				Source: 1909181-02 Prepared & Analyzed: 04/04/2019						
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120	0.00	20	
Batch BCD0162 - No Prep IC										
Blank (BCD0162-BLK1)				Prepared & Analyzed: 04/08/2019						
Chloride	BLOD	1.0	mg/L							
Sulfate	BLOD	1.0	mg/L							
LCS (BCD0162-BS1)				Prepared & Analyzed: 04/08/2019						
Chloride	20.7	1	mg/L	20.0		103	90-110			
Sulfate	20.1	1	mg/L	20.0		100	90-110			
LCS Dup (BCD0162-BS2)				Prepared & Analyzed: 04/08/2019						
Sulfate	20.1	1	mg/L	20.0		100	90-110	0.110	15	
Chloride	20.7	1	mg/L	20.0		103	90-110	0.024	15	
Matrix Spike (BCD0162-MS1)				Source: 19C1181-01MS1 Prepared & Analyzed: 04/08/2019						
Chloride	20.9	0.0	mg/L	20.0	17.1	80.7	90-110			ND
Sulfate	64.3	0.0	mg/L	50.0	3.5	107	90-110			ND

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	NASC Limits	RPD	RPD Limit	Qual
Batch BCD0182 - No Prep IC										
Matrix Spike Dup (BCD0182-MSD) Source: 18C1181-STR1 Prepared & Analyzed: 04/08/2019										
Sulfate	64.5	5.0	mg/L	80.0	3.5	100	90-110	5.118	15	Met
Chloride	200	5.0	mg/L	80.0	171	60.8	90-110	0.0066	15	Met
Batch BCD0284 - No Prep Wet Chem										
Blank (BCD0284-BLKT) Prepared & Analyzed: 04/08/2019										
Sulfate	BL00	1.00	mg/L							
LCS (BCD0284-881) Prepared & Analyzed: 04/08/2019										
Sulfate	4.94	1	mg/L			90.8	80-120			
LCS-Dup (BCD0284-882) Prepared & Analyzed: 04/08/2019										
Sulfate	5.19	1	mg/L			104	80-120	13.4	20	
Matrix Spike (BCD0284-MS1) Source: 18C0178-45 Prepared & Analyzed: 04/08/2019										
Sulfate	2.83	1.00	mg/L		BLOD	117	75-125			
Matrix Spike Dup (BCD0284-MS2) Source: 18C0178-45 Prepared & Analyzed: 04/08/2019										
Sulfate	4.08	1.00	mg/L		BLOD	99.0	75-125	16.3	20	
Batch BCD0414 - No Prep Wet Chem										
Blank (BCD0414-BLKT) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0414-881) Prepared & Analyzed: 04/11/2019										
Nitrate+Nitrite as N	2.48	0.1	mg/L	2.50		99.2	90-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch BCD0414 - No Prep Wet Chem										
Matrix Spike (BCD0414-MS1)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.54	0.10	mg/L	2.50	BL00	140	90-110			NS
Matrix Spike Dup (BCD0414-MS2)	Source: 1800240-01			Prepared & Analyzed: 04/11/2019						
Nitrate-Nitrite as N	2.52	0.10	mg/L	2.50	BL00	141	90-110	0.650	20	NS
Batch BCD0507 - No Prep Wet Chem										
Blank (BCD0507-BLK1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	BL00	5.0	mg/L							
LCS (BCD0507-LCS1)				Prepared & Analyzed: 04/15/2019						
Alkalinity	52.0	5.0	mg/L			104	80-120			
Matrix Spike (BCD0507-MS1)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	141	5.0	mg/L	98.0	92.0	98.0	75-125			
Matrix Spike Dup (BCD0507-MS2)	Source: 1800191-17			Prepared & Analyzed: 04/15/2019						
Alkalinity	138	5.0	mg/L	92.0	92.0	94.0	75-125	1.43	20	
Batch BCD0541 - No Prep Wet Chem										
Blank (BCD0541-BLK1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	BL00	0.10	mg/L							
LCS (BCD0541-LCS1)				Prepared & Analyzed: 04/16/2019						
Nitrate-Nitrite as N	2.72	0.1	mg/L	2.50		108	90-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: BCD0541 - Wet Chem Wet Chem

Matrix Spike (BCD0541-MS1)	Source: 1809479-44	Prepared & Analyzed: 04/16/2019								
Nitrate-Nitrite as N	4.05	0.10 mg/L	2.00	1.74	100	90-110				SI
Matrix Spike Dup (BCD0541-MS2)	Source: 1809479-44	Prepared & Analyzed: 04/16/2019								
Nitrate-Nitrite as N	5.02	0.10 mg/L	2.00	1.74	121	90-110	0.879	20		SI

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA Approved Surface Methods			Preparation Method	EPA/USEPA/USEPA	
1900191-03	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-03	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-04	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-05	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-06	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-07	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-08	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-09	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-10	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-11	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-12	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
1900191-13	50.0 mL / 50.0 mL	SW8210C	SCD0199	SCD0230	AD00027
Metals Chemistry Analysis			Preparation Method	No Prep IC	
1900191-01	1.00 mL / 1.00 mL	SW8210C/IC 1	SCD0192	SCD0283	AC00108
1900191-02	1.00 mL / 1.00 mL	SW8210C/IC 1	SCD0192	SCD0283	AC00108
1900191-05	1.00 mL / 1.00 mL	SW8210C/IC 1	SCD0192	SCD0283	AC00108
1900191-06	1.00 mL / 1.00 mL	SW8210C/IC 1	SCD0192	SCD0283	AC00108
1900191-07	1.00 mL / 1.00 mL	SW8210C/IC 1	SCD0192	SCD0283	AC00108
Metals Spec Analysis by GC			Preparation Method	No Prep GC	
1900191-01	5.00 mL / 5.00 mL	SW8210A	SCD0494	SCD0613	AC00026
1900191-04	5.00 mL / 5.00 mL	SW8210A	SCD0494	SCD0613	AC00026
1900191-04611	1.00 mL / 5.00 mL	SW8210A	SCD0494	SCD0613	AC00026

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 5:01:15PM**

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Collection ID
Lead Screen Analysis by GC					
			Preparation Method	No Prep W/D	
1800181-05	1.00 mL / 0.00 mL	8104.175A	SCD0049	SCD0013	AC00005
1800181-06	1.00 mL / 0.00 mL	8104.175A	SCD0049	SCD0013	AC00005
1800181-07	1.00 mL / 0.00 mL	8104.175A	SCD0049	SCD0013	AC00005
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800181-01	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0184	SCD0185	AC00002
1800181-04	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0184	SCD0185	AC00002
1800181-05	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0184	SCD0185	AC00002
1800181-06	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0184	SCD0185	AC00002
1800181-07	25.0 mL / 25.0 mL	8402-4000-AC026-2011	SCD0184	SCD0185	AC00002
1800181-02	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-03	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-08	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-09	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-10	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-11	8.00 mL / 8.00 mL	8100.015	SCD0344	SCD0340	
1800181-01	1.00 mL / 0.00 mL	8402-4000-AC007-2011	SCD0414	SCD0429	AD00055
1800181-04	1.00 mL / 0.00 mL	8402-4000-AC007-2011	SCD0414	SCD0429	AD00055
1800181-05	1.00 mL / 0.00 mL	8402-4000-AC007-2011	SCD0414	SCD0429	AD00055
1800181-07	1.00 mL / 0.00 mL	8402-4000-AC007-2011	SCD0414	SCD0429	AD00055
1800181-01	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-04	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-05	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-06	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-07	50.0 mL / 50.0 mL	8402-2000-2011	SCD0007	SCD0019	
1800181-08	50.0 mL / 50.0 mL	8402-4000-AC007-2011	SCD0041	SCD0060	AD00052

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Waste Organic Compounds by GC/MS					
			Preparation Method	SW8260B	
19C0101-01	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-02	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-04	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-05	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-06	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-07	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-08	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-09	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-10	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-11	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-12	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-13	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-14	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-15	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-16	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-17	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-18	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
19C0101-19	5.00 mL / 5.00 mL	SW8260B	SCD0010	SCD0010	AC00114
			Preparation Method	SW7470A	
19C0101-14	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
19C0101-15	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
19C0101-16	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
19C0101-17	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
19C0101-18	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000
19C0101-19	20.0 mL / 20.0 mL	SW7470A	SCD0010	SCD0010	AC00000

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Certified Analyses included in this Report

Analyte	Certifications
EPAL010 P2.1 in Non-Potable Water	
Chloride	VELAP/NC, WVDOP
Sulfate	VELAP/NC, WVDOP
MSK17SM in Non-Potable Water	
Methane	VELAP
SM12 2320B-2011 in Non-Potable Water	
Alkalinity	VELAP/WVDOP
SM12 4500-WO3B-2011 in Non-Potable Water	
Hardness as Ca	VELAP/WVDOP
SM12 4500-WO3F-2011 in Non-Potable Water	
Nitrate-Nitrite as N	VELAP/WVDOP
SM0010C in Non-Potable Water	
Cobalt	VELAP/WVDOP
SM7A/70A in Non-Potable Water	
Mercury	VELAP/NC, WVDOP
SM8200I in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,1-Trichloroethane	NC, VELAP, WVDOP
1,1,2,2-Tetrachloroethane	NC, VELAP, WVDOP
1,1,2-Trichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethane	NC, VELAP, WVDOP
1,1-Dichloroethylene	NC, VELAP, WVDOP
1,2,3-Trichlorobenzene	NC, VELAP, WVDOP
1,2-Dichlorobenzene	NC, VELAP, WVDOP
1,2-Dichloroethane	NC, VELAP, WVDOP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:15PM

Certified Analyses included in this Report

Analyte	Certification
1,1-Dichloroethane	NC, NELAP, WYDEP
1,1-Dichloroethene	NC, NELAP, WYDEP
2-Butanone (MEK)	NC, NELAP, WYDEP
2-Hexanone (MIBK)	NC, NELAP, WYDEP
4-Methyl-2-pentanone (MIBK)	NC, NELAP, WYDEP
Acetone	NC, NELAP, WYDEP
Acrylonitrile	NC, NELAP, WYDEP
Benzene	NC, NELAP, WYDEP
Bromochloromethane	NC, NELAP, WYDEP
Bromochloroethane	NC, NELAP, WYDEP
Bromodichloromethane	NC, NELAP, WYDEP
Bromodichloroethane	NC, NELAP, WYDEP
Bromofluoromethane	NC, NELAP, WYDEP
Carbon disulfide	NC, NELAP, WYDEP
Carbon tetrachloride	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chloroethane	NC, NELAP, WYDEP
Chloroform	NC, NELAP, WYDEP
Chloromethane	NC, NELAP, WYDEP
cis-1,2-Dichloroethylene	NC, NELAP, WYDEP
cis-1,3-Dichloropropene	NC, NELAP, WYDEP
Dibromochloromethane	NC, NELAP, WYDEP
Dibromomethane	NC, NELAP, WYDEP
Dichlorodifluoromethane	NC, NELAP, WYDEP
Ethylbenzene	NC, NELAP, WYDEP
Isomethane	NC, NELAP, WYDEP
m,p-Xylenes	NC, NELAP, WYDEP
Methylene chloride	NC, NELAP, WYDEP
Naphthalene	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Certified Analyses included in this Report

Analyte	Certification
o-Xylene	NC.VELAP.WVDEP
Styrene	NC.VELAP.WVDEP
Tetrachloroethylene (PCE)	NC.VELAP.WVDEP
Toluene	NC.VELAP.WVDEP
trans-1,2-Dichloroethylene	NC.VELAP.WVDEP
trans-1,3-Dichloropropene	NC.VELAP.WVDEP
trans-1,4-Dichloro-2-butene	NC.VELAP.WVDEP
Trichloroethylene	NC.VELAP.WVDEP
Trichlorofluoromethane	NC.VELAP.WVDEP
Vinyl acetate	NC.VELAP.WVDEP
Vinyl chloride	NC.VELAP.WVDEP
Xylenes, Total	NC.VELAP.WVDEP

EMSP15 in Non-Potable Water

Sulfur VELAP

Code	Description	Call Number	Expires
MD06	Maryland DE Drinking Water	341	12/31/2019
VELAP Certificate #4337	VELAP-Virginia Certificate #10074	45003	05/14/2019

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Qualifiers and Definitions

- J The reported result is an estimated value.
- M Matrix spike recovery is outside established acceptance limits

- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLDD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1264, 1268, 1282, and 1288.



1541 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 268-8200 PHONE
 (804) 268-8287 FAX

Chain of Custody
 Form # 0100
 Rev. 1.0
 Effective Feb 14, 2004

CHAIN OF CUSTODY

Page 1 of 3

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Colpeper Environmental Services	PROJECT NAME/Quote #: LVCSLP Corrective Action Well
CONTACT: Jana White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Corrective Action Well (Colpeper)
ADDRESS: 1804 Dewey Lane, Richmond, VA 23229	INVOICE ADDRESS: 1815 POWELL BLVD SUITE 101, COLPEPER, VA 23237	PROJECT NUMBER: Job No. 191908-0001
PHONE #: (804) 268-8200	INVOICE PHONE #: (804) 727-0400	P.O. #:
FAX #: (804) 268-8282	EMAIL: joyce@joyce-engineering.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Adams* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: **10 Days**

Matrix Codes: **01=Surface Water 02=Ground Water 03=Drinking Water 04=Surface Off-Organic Area 05=Sludge 06=Other**

CLIENT SAMPLE I.D.	Matrix	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
											As (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Copper (mg/L)	Fluoride (mg/L)		Iron (mg/L)	Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
1) MW-10		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
2) MW-6		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
3) MW-7		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
4) C.L.F-1		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
5) MW-1		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
6) MW-5		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
7) MW-11		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
8) MW-10		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
9) MW-11		X				4/16/04	07:00			1	X	X	X	X	X	X	X	
10) C.L.F-1		X				4/16/04	07:00			1	X	X	X	X	X	X	X	

LAB USE ONLY COOLER TEMP: 4.7 °C

PREPARED BY: *[Signature]* DATE: 4/16/04

ANALYZED BY: *[Signature]* DATE: 4/16/04

RECEIVED BY: *[Signature]* DATE: 4/16/04

QC Test Package: 1 2 3 4 5 6 7 8 9 10

LaBella Associates, 1500161
 Laurel Valley Corrective Action We
 Recd: 04/03/2019 Dur: 04/17/04 Page 111 of 115

CHAIN OF CUSTODY

PAGE 2 of 2

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quota #: Locust Corrective Action Well
CONTACT: Jeta White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpeper)
ADDRESS: 1804 Denty Lane, Richmond, VA 23229	INVOICE ADDRESS: 118 Westpark Blvd, Suite 101, Culpeper, VA 22729	PROJECT NUMBER: Job No. E18120-00-01
PHONE #: (804) 358-8200	INVOICE PHONE #: (844) 727-2468	P.O. #
FAX #: (804) 358-4262	EMAIL: Jeta@joyce-engineering.com	Presreatment Program

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS ID #

SAMPLER NAME (PRINT): *M. Adams* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: **10 Days**

Media Codes: **SW-Surface Water, GW-Gravel Water, DW-Drinking Water, S-Solids, O-Organic Anal, W-Water, C-Other**

CLIENT SAMPLE ID	Matrix	Compositing	Field Filtered (Dissolved Metals)	Compositing Start Date	Compositing Stop Date	Time Preserved	Media (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS
									DM VOCs-218 + Submicrothromazine (ML)	Hexachloro-B210 (ML)	Cobalt (HSCG)	Mercury (HSCB)	Nitrate (HSCM)	Ammonia / Chloride / NO2 / Sulfide	Methane (HCL)		Sulfide (HSCB + Sulf)
1) <i>AW-16</i>	X	X	X						X	X	X	X	X	X	X	
2) <i>AW-14</i>	X	X	X						X	X	X	X	X	X	X	
3) <i>AW-11</i>	X	X	X						X	X	X	X	X	X	X	
4) <i>AW-01</i>	X	X	X						X	X	X	X	X	X	X	
5) <i>CLP-10</i>	X	X	X						X	X	X	X	X	X	X	
6) <i>AW-08</i>	X	X	X						X	X	X	X	X	X	X	
7) <i>CLP-01</i>	X	X	X						X	X	X	X	X	X	X	
8) <i>AW-02</i>	X	X	X						X	X	X	X	X	X	X	
9) <i>CLP-01</i>	X	X	X						X	X	X	X	X	X	X	

RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>	RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>	RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>	RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>	RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>	RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i> RECEIVED: <i>[Signature]</i> DATE: <i>04/03/2019</i>
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LAB USE ONLY

LaBella Associates, 1900161
 Laurel Valley Corrective Action We
 Recd: 04/03/2019 Due: 04/17/2019

Page 112 of 115



LaBella Associates, 19D0161
 Laurel Valley Corrective Action We

Sample Preservation Log

Sample Preservation Log
 Form 7-1997
 Revised
 October 10, 2010
 Page 1 of 1

Order ID: _____
 Recd: 04/03/2019 Due: 04/17/2019

Date Performed: 4-9-19

Analyst Performing Check: CT

Sample ID	Well	Metals		Cyanide		Sulfide		Ammonia		TKN	Flow, Tot	NO3-N/NO2-N		DissO	Phosphate		SYOC		COP		Residual Chlorine		
		As	Cd	Cu	Pb	Ag	Bi	Cr	Co			Fe	Mn		Ni	Se	Zn	Al	Ca	Mg	Na	K	Li	B	Si
-01	B																						
	F																						
-02	A	✓																					
-03	A	✓																					
-04	A	✓																					
-05	A	✓																					
-06	A	✓																					
-07	A	✓																					
-08	A	✓																					
-09	A	✓																					
-10	A	✓																					
-11	A	✓																					
-12	A	✓																					
-13	A	✓																					
-14	D	✓																					

NaOH ID: _____ NaOH ID: _____ COP preserved solution: _____ Analyte Initials: _____
 NaOH ID: _____ NaOH ID: _____ * pH must be reported between 8.2 - 8.7
 NaOH ID: _____ NaOH ID: _____ Buffer Salt ID: _____
 NaOH ID: _____ NaOH ID: _____ NaOH ID: _____ NaOH ID: _____

* This was verified using EPA method 8000 as an approved method under 40 CFR 136.3 for water samples.

Geographic Location: CG

Station	Section	Top of Section	Bottom of Section	Thickness	Remarks	Notes
1	1	100	95	5	...	...
1A	1	95	90	5	...	...
1B	1	90	85	5	...	...
1C	1	85	80	5	...	...
1D	1	80	75	5	...	...
1E	1	75	70	5	...	...
1F	1	70	65	5	...	...
1G	1	65	60	5	...	...
1H	1	60	55	5	...	...
1I	1	55	50	5	...	...
1J	1	50	45	5	...	...
1K	1	45	40	5	...	...
1L	1	40	35	5	...	...
1M	1	35	30	5	...	...
1N	1	30	25	5	...	...
1O	1	25	20	5	...	...
1P	1	20	15	5	...	...
1Q	1	15	10	5	...	...
1R	1	10	5	5	...	...
1S	1	5	0	5	...	...

Scale: _____

Section No: _____

Station No: _____

Top of Section: _____

Bottom of Section: _____

Thickness: _____

Remarks: _____

Notes: _____

WATER RESOURCES DIVISION

U.S. GEOLOGICAL SURVEY

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 5:01:13PM

Sample Conditions Checklist

Sample Received at	4/9/19
Was area sampled marked?	Yes
Were labels from each? If so, were they numbered consecutively?	Yes
Are the correct labels from all containers and provided?	Yes
Do all labels clearly agree with custody papers?	Yes
Is the temperature listed on representative samples within acceptable limits as required on box and security label?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analytes requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA8221, EPA8204, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but lab preservation may delay analysis.	Yes

For the Trip Blank see 19D0177-03. BAR 04/03/19 1518

Analysis Detectable Report

Client Name: LaBella Associates, D.P.C.
Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2018 4:59:08PM

Laboratory Sample ID: 1508176-01

Client Sample ID: MW-18

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW84610C	155		5.0	10.0	1	ug/L
Cobalt	01	SW84610C	12.1		2.0	4.0	1	ug/L
Mercury	01	SW84610C	6.4	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	01	SW84600B	6.27		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW84600B	4.59		0.40	1.00	1	ug/L
Chlorobenzene	01	SW84600B	3.08		0.40	1.00	1	ug/L
Chloroethane	01	SW84600B	1.81		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW84600B	8.33		0.40	1.00	1	ug/L
Trichloroethylene	01	SW84600B	0.69	J	0.40	1.00	1	ug/L
Vinyl chloride	01	SW84600B	2.15		0.50	0.50	1	ug/L

Laboratory Sample ID: 1508176-02

Client Sample ID: MW-28

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW84610C	251		5.0	10.0	1	ug/L
Cobalt	02	SW84610C	18.9		2.0	4.0	1	ug/L
Mercury	02	SW84610C	70.1		2.0	10.0	1	ug/L
1,1-Dichloroethane	02	SW84600B	3.76		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW84600B	1.33		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW84600B	13.8		0.40	1.00	1	ug/L
Benzene	02	SW84600B	1.73		0.40	1.00	1	ug/L
Chlorobenzene	02	SW84600B	12.8		0.40	1.00	1	ug/L
Chloroethane	02	SW84600B	0.83	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW84600B	4.97		0.40	1.00	1	ug/L
Trichloroethylene	02	SW84600B	1.48		0.40	1.00	1	ug/L
Vinyl chloride	02	SW84600B	3.58		0.50	0.50	1	ug/L

Analysis Detecta Report

Client Name: LaBelle Associates, D.P.C.
 Client Site ID: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:06PM

Laboratory Sample ID: 1908176-03 Client Sample ID: MW-3A

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6010C	97.2		5.0	10.0	1	ug/L
Cadmium	03	SW6010C	3.1	J	2.0	4.0	1	ug/L

Laboratory Sample ID: 1908176-04 Client Sample ID: MW-4

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6010C	42.8		5.0	10.0	1	ug/L
Cadmium	04	SW6010C	8.3		2.0	4.0	1	ug/L
Cobalt	04	SW6010C	7.1	J	2.0	10.0	1	ug/L
1,1-Dichloroethane	04	SW6200B	2.42		0.60	1.00	1	ug/L
1,2-Dichloroethane	04	SW6200B	0.82	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW6200B	15.8		0.40	1.00	1	ug/L
Benzene	04	SW6200B	2.52		0.40	1.00	1	ug/L
Chlorobenzene	04	SW6200B	5.02		0.40	1.00	1	ug/L
Chloroethane	04	SW6200B	1.28		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW6200B	4.70		0.40	1.00	1	ug/L
n-py. Xylene	04	SW6200B	1.84	J	0.60	2.00	1	ug/L
o-Xylene	04	SW6200B	5.93		0.40	1.00	1	ug/L
Trichloroethylene	04	SW6200B	0.44	J	0.40	1.00	1	ug/L
Vinyl chloride	04	SW6200B	0.58		0.50	0.50	1	ug/L
Xylenes, Total	04	SW6200B	7.77		1.00	3.00	1	ug/L

Laboratory Sample ID: 1908176-05 Client Sample ID: MW-05

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6010C	11.1		5.0	10.0	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID 1909176

Client Name: LaBella Associates, D.P.C.
1604 Ownby Lane
Richmond, VA 23220

Date Received: April 3, 2019 13:52
Date Issued: April 16, 2019 16:59
Project Number: 310.1401.03.01
Purchase Order:

Submitted To: Jake White

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/03/2019 13:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mahra
Lab Director/Quality Assurance Manager

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are shown as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	19D0176-01	Ground Water	04/02/2019 07:55	04/03/2019 13:52
MW-2B	19D0176-02	Ground Water	04/02/2019 07:40	04/03/2019 13:52
MW-3A	19D0176-03	Ground Water	04/02/2019 07:20	04/03/2019 13:52
MW-4	19D0176-04	Ground Water	04/02/2019 09:50	04/03/2019 13:52
MW-20	19D0176-05	Ground Water	04/03/2019 07:55	04/03/2019 13:52

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1809176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	800010C	04/04/2019 17:30	04/05/2019 16:31	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	01	7440-38-2	800020A	04/04/2019 17:30	04/05/2019 16:26	BL00		1.0	5.0	1	ug/L	NOV
Barium	01	7440-39-3	800010C	04/04/2019 17:30	04/05/2019 16:33	188		5.0	10.0	1	ug/L	SHL
Beryllium	01	7440-41-7	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		3.0	4.0	1	ug/L	SHL
Cadmium	01	7440-43-4	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		0.5	4.0	1	ug/L	SHL
Cobalt	01	7440-48-4	800010C	04/04/2019 17:30	04/05/2019 16:33	12.1		3.0	4.0	1	ug/L	SHL
Chromium	01	7440-47-3	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		4.0	10.0	1	ug/L	SHL
Copper	01	7440-50-8	800010C	04/04/2019 17:30	04/05/2019 16:31	BL00		3.0	10.0	1	ug/L	SHL
Mercury	01	7440-01-6	807475A	04/11/2019 08:30	04/11/2019 15:50	BL00		0.30	0.30	1	ug/L	SHL
Nickel	01	7440-02-0	800010C	04/04/2019 17:30	04/05/2019 16:33	6.4	J	2.0	10.0	1	ug/L	SHL
Lead	01	7439-92-1	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		5.0	10.0	1	ug/L	SHL
Antimony	01	7440-36-0	800020A	04/04/2019 17:30	04/05/2019 16:26	BL00		1.00	1.00	1	ug/L	NOV
Selenium	01	7782-49-2	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		40.0	50.0	1	ug/L	SHL
Tin	01	7440-31-0	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		50.0	20.0	1	ug/L	SHL
Thallium	01	7440-29-0	800020A	04/04/2019 17:30	04/05/2019 16:26	BL00		1.00	1.00	1	ug/L	NOV
Zinc	01	7440-66-3	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		5.0	10.0	1	ug/L	SHL
Vanadium	01	7440-62-2	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		5.0	10.0	1	ug/L	SHL
Iron	01	7440-08-6	800010C	04/04/2019 17:30	04/05/2019 16:33	BL00		50.0	10.0	1	ug/L	SHL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrahydroethane	01	630-20-8	800000B	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	0.40	1	ug/L	NOB
1,1,1-Trichloroethane	01	71-69-6	800000B	04/09/2019 12:19	04/09/2019 12:19	BL00		0.80	1.00	1	ug/L	NOB
1,1,2,2-Tetrahydroethane	01	78-34-5	800000B	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	0.40	1	ug/L	NOB
1,2-Dichloroethane	01	78-09-5	800000B	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	1.00	1	ug/L	NOB
1,1-Dichloroethane	01	78-34-3	800000B	04/09/2019 12:19	04/09/2019 12:19	0.37		0.80	1.00	1	ug/L	NOB
1,1-Dichloroethylene	01	75-34-4	800000B	04/09/2019 12:19	04/09/2019 12:19	BL00		0.70	1.00	1	ug/L	NOB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1809176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1-Dichloroethane	01	585-38-8	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	01	120-82-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.50	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	01	95-50-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloroethane	01	107-66-2	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	78-67-6	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	94-73-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	142-28-8	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-48-7	SW82000	04/09/2019 12:18	04/09/2019 12:18	4.98		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	01	599-20-7	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.80	2.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	01	328-78-8	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		1.80	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		7.00	10.0	1	ug/L	KCS
Acetonitrile	01	75-05-8	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		8.00	10.0	1	ug/L	KCS
Acrolein	01	107-02-8	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		8.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		1.70	5.00	1	ug/L	KCS
Allyl alcohol	01	107-05-1	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.80	1.00	1	ug/L	KCS
Benzene	01	71-43-2	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
Bromoethoxyethane	01	74-87-6	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.80	1.00	1	ug/L	KCS
Bromochloroethane	01	75-37-4	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	0.50	1	ug/L	KCS
Bromobenzene	01	75-25-3	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW82000	04/09/2019 12:18	04/09/2019 12:18	BL00		1.80	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1809176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW82000	04/09/2019 12:19	04/09/2019 12:19	3.88		0.40	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW82000	04/09/2019 12:19	04/09/2019 12:19	1.81		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-68-3	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	1.00	1	ug/L	KCS
Chloroacetic acid	01	106-96-4	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	0.50	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-60-2	SW82000	04/09/2019 12:19	04/09/2019 12:19	0.29		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10001-01-8	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	01	134-48-1	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	0.50	1	ug/L	KCS
Dibromomethane	01	74-90-3	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	1.00	1	ug/L	KCS
Ethyl acetate	01	97-83-2	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.70	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	1.00	1	ug/L	KCS
Fluorochlorobenzene	01	67-68-3	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	0.50	1	ug/L	KCS
Isobutane	01	74-98-4	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		20.0	50.0	1	ug/L	KCS
m,p-Xylene	01	179601-22-1	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.50	2.00	1	ug/L	KCS
Methacrylonitrile	01	126-98-7	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	01	80-42-6	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.70	2.00	1	ug/L	KCS
Methylene chloride	01	75-08-2	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		3.80	4.00	1	ug/L	KCS
n-Butane	01	95-47-8	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	1.00	1	ug/L	KCS
Propionitrile	01	107-12-0	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		7.50	50.0	1	ug/L	KCS
Styrene	01	100-42-5	SW82000	04/09/2019 12:19	04/09/2019 12:19	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1809176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-0	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10021-22-8	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	119-27-9	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-07-6	8260.000	04/09/2019 12:19	04/09/2019 12:19	0.69	J	0.40	1.00	1	ug/L	KCS
Fluorochloroethylene	01	75-68-4	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	79-07-4	8260.000	04/09/2019 12:19	04/09/2019 12:19	2.15		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	8260.000	04/09/2019 12:19	04/09/2019 12:19	BLOD		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane (Sum)	01		88.1 %	75-130	04/09/2019 12:19	04/09/2019 12:19						
Sum: 1,3-Dichloropropane (Sum)	01		88.1 %	75-130	04/09/2019 12:19	04/09/2019 12:19						
Sum: 1,2-Dichloroethane (Sum)	01		88.1 %	75-130	04/09/2019 12:19	04/09/2019 12:19						
Sum: Toluene (Sum)	01		88.1 %	75-130	04/09/2019 12:19	04/09/2019 12:19						

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1909176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
1,2,5-Trichlorobenzene	01	95-93-4	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.88	9.30	1	ug/L	SKS
1,3-Dichlorobenzene	01	95-95-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.66	2.66	1	ug/L	SKS
1,4-Naphthoquinone	01	135-19-4	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
1-Naphthylamine	01	134-32-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.88	10.6	1	ug/L	SKS
2,3,4,5-Tetrachlorophenol	01	94-90-3	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.06	10.6	1	ug/L	SKS
2,4,5-Trichlorophenol	01	95-93-4	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.06	10.6	1	ug/L	SKS
2,4,6-Trichlorophenol	01	88-06-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
3,4-Dichlorophenol	01	120-83-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
2,4-Dimethylphenol	01	105-67-8	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD	C	0.53	0.53	1	ug/L	SKS
2,4-Dinitrophenol	01	81-26-6	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		6.51	53.2	1	ug/L	SKS
2,4-Dinitrotoluene	01	121-14-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.66	10.6	1	ug/L	SKS
2,6-Dinitrophenol	01	87-62-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.06	10.6	1	ug/L	SKS
2,6-Dinitrotoluene	01	806-30-3	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.26	10.6	1	ug/L	SKS
2-Acetylnaphthalene	01	5346-3	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.66	2.66	1	ug/L	SKS
2-Chloronaphthalene	01	91-58-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.79	10.6	1	ug/L	SKS
2-Chlorophenol	01	95-57-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.72	10.6	1	ug/L	SKS
2-Methylnaphthalene	01	91-07-6	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
2-Naphthylamine	01	91-58-6	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
2-Nitroaniline	01	88-78-4	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
2-Nitrophenol	01	88-75-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.19	10.6	1	ug/L	SKS
3,3'-Dinitroazobenzidine	01	81-84-1	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.26	10.6	1	ug/L	SKS
3,3'-Dimethylbenzidine	01	119-83-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.88	2.88	1	ug/L	SKS
3-Methyltoluene	01	64-65-5	SM82700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.88	10.6	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1809176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	01	99-06-2	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
1,3-Dioxo-2-methylphenol	01	934-02-1	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		8.81	88.1	1	ug/L	SKS
4-Aminodiphenyl	01	93-87-1	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
4-Bromodiphenyl ether	01	101-85-1	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.73	17.3	1	ug/L	SKS
4-Chlorodiphenyl	01	108-47-9	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
4-Dichlorodiphenyl ether	01	3004-13-9	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.72	37.2	1	ug/L	SKS
4-Fluorodiphenyl	01	100-01-8	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
4-Nitrodiphenyl	01	100-02-7	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
5-Nitro-2-naphthol	01	89-85-8	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
1,12-Dimethylbenz (a) anthracene	01	87-87-8	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD	C	2.13	21.3	1	ug/L	SKS
Acenaphthene	01	85-32-9	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.26	42.6	1	ug/L	SKS
Acenaphthylene	01	105-96-0	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.26	42.6	1	ug/L	SKS
Acenaphthone	01	98-89-2	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
Anthracene	01	130-13-7	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		5.32	53.2	1	ug/L	SKS
Benzo (a) anthracene	01	94-04-3	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		0.65	6.5	1	ug/L	SKS
Benzo (a) pyrene	01	50-32-6	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		0.11	1.1	1	ug/L	SKS
Benzo (b) fluoranthene	01	205-99-0	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		4.26	42.6	1	ug/L	SKS
Benzo (k) fluorene	01	181-24-2	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	21.3	1	ug/L	SKS
Benzo (k) fluoranthene	01	207-08-9	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		8.38	83.8	1	ug/L	SKS
Benzo (m) pteridine	01	100-81-4	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.86	18.6	1	ug/L	SKS
ben (2-Chloromethyl) methane	01	111-40-1	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.73	37.3	1	ug/L	SKS
ben (2-Chloromethyl) ether	01	111-44-4	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.73	37.3	1	ug/L	SKS
2,2'-Oxide (1-chlorophenyl)	01	106-86-1	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.79	17.9	1	ug/L	SKS
ben (2-Ethylhexyl) phosphate	01	917-45-7	8260.710	04/04/2019 09:30	04/08/2019 17:30	BLOD	C	2.88	28.8	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1809176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Butyl benzyl phthalate	01	65-68-7	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD	C	7.43	10.6	1	ug/L	SKS
Chlorobenzene	01	91-03-8	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD	C	2.66	2.66	1	ug/L	SKS
Chrysene	01	218-01-8	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		4.28	10.6	1	ug/L	SKS
Diakyl	01	2003-38-4	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.66	2.66	1	ug/L	SKS
Diethyl (p,p') dithionene	01	62-70-3	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.93	10.6	1	ug/L	SKS
Dibenzofuran	01	133-44-8	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.13	6.32	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		3.19	10.6	1	ug/L	SKS
Dinitrobenzene	01	60-51-5	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.66	2.66	1	ug/L	SKS
Di-n-octyl phthalate	01	135-11-3	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		3.72	10.6	1	ug/L	SKS
Di-n-octyl phthalate	01	84-78-2	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		4.26	10.6	1	ug/L	SKS
Di-n-octyl phthalate	01	117-84-0	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD	C	8.51	10.6	1	ug/L	SKS
Dibenzyltoluene	01	127-35-4	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.13	10.6	1	ug/L	SKS
Dieldrin	01	206-34-4	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD	C	2.66	2.66	1	ug/L	SKS
Ethyl methylacrylate	01	62-50-0	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		1.66	21.3	1	ug/L	SKS
Ethyl methacrylate	01	94-36-3	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.66	2.66	1	ug/L	SKS
Fluoranthene	01	53-68-7	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD	C	2.66	2.66	1	ug/L	SKS
Fluorene	01	206-44-0	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		5.32	10.6	1	ug/L	SKS
Fluorene	01	66-73-7	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		4.28	10.6	1	ug/L	SKS
Hexachlorobenzene	01	118-74-1	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		0.66	0.66	1	ug/L	SKS
Hexachlorocyclopentadiene	01	67-68-3	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		4.79	10.6	1	ug/L	SKS
Hexachlorocyclopentadiene	01	77-47-4	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		1.66	10.6	1	ug/L	SKS
Hexachlorobiphenyl	01	67-73-1	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		3.73	10.6	1	ug/L	SKS
Hexachloropropene	01	1655-71-7	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		2.13	2.66	1	ug/L	SKS
Indene (1,2,3-cd) pyrene	01	183-38-1	8262.700	04/04/2019 09:30	04/08/2019 17:30	BLOOD		3.19	10.6	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1909176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Acetone	01	66-06-6	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.86	10.6	1	ug/L	SKS
Acrylonitrile	01	78-06-1	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.66	10.6	1	ug/L	SKS
Benzonitrile	01	120-66-1	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
Biphenyl	01	143-00-0	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD	C	2.13	2.66	1	ug/L	SKS
o-Cresol	01	95-49-7	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.86	10.6	1	ug/L	SKS
Methoxybenzene	01	91-00-9	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.06	10.6	1	ug/L	SKS
Methyl methanesulfonate	01	66-27-3	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		1.06	10.6	1	ug/L	SKS
Methyl parathion	01	298-00-0	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	2.66	1	ug/L	SKS
Naphthalene	01	81-20-3	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.72	10.6	1	ug/L	SKS
Nonane	01	88-98-3	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
n-Propylbenzene	01	95-18-6	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.66	2.66	1	ug/L	SKS
n-Propylchlorobenzene	01	62-75-6	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
n-Propyl-n-butylamine	01	929-16-3	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
n-Propyl-n-propylamine	01	621-64-7	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.72	10.6	1	ug/L	SKS
n-Propylphenylamine	01	84-19-6	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
n-Propylsulfonamide	01	10905-95-8	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	2.66	1	ug/L	SKS
n-Propylamine	01	106-75-4	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
n-Propylamine	01	930-05-2	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	2.66	1	ug/L	SKS
n,n-Dimethyl phosphorothioate	01	126-68-1	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
n,n-Dimethyl n-2-propenyl phosphorothioate	01	297-87-3	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	10.6	1	ug/L	SKS
o-Cresol	01	1319-77-2	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		3.19	10.6	1	ug/L	SKS
o-Cresol	01	95-49-7	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		8.81	10.6	1	ug/L	SKS
o-Toluidine	01	95-53-4	8260.700	04/04/2019 09:30	04/08/2019 17:30	BLOD		2.13	2.66	1	ug/L	SKS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1909176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	66-11-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00	C	1.00	2.00	1	ug/L	SKJ
p-Chloro-m-xcel	01	66-66-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	10.0	1	ug/L	SKJ
Pentachlorobenzene	01	608-03-8	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	10.0	1	ug/L	SKJ
Pentachloroantibenzene (quintozene)	01	82-09-8	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		1.00	1.00	1	ug/L	SKJ
Phenanthrene	01	62-44-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		1.00	10.0	1	ug/L	SKJ
Fluorene	01	69-01-8	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		5.00	10.0	1	ug/L	SKJ
Fluorant	01	106-05-1	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.00	10.0	1	ug/L	SKJ
Fluoranthene	01	256-03-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	2.00	1	ug/L	SKJ
p-Fluorophenanthrene	01	100-50-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	10.0	1	ug/L	SKJ
Fluoranthene	01	256-03-2	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	10.0	1	ug/L	SKJ
Pyrene	01	129-00-0	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00	C	7.00	10.0	1	ug/L	SKJ
Sulfone	01	94-36-7	SM82700	04/04/2019 09:30	04/08/2019 17:30	BL00		2.50	2.00	1	ug/L	SKJ
Surr: 2,4,6-Trinitrophenol (Surr)	01	72-73-6	10-28	04/04/2019 09:30	04/08/2019 17:30							
Surr: 2-Fluorobiphenyl (Surr)	01	97-83-6	9-07	04/04/2019 09:30	04/08/2019 17:30							
Surr: 2-Fluorophenol (Surr)	01	95-47-6	10-02	04/04/2019 09:30	04/08/2019 17:30							
Surr: Nitrobenzene-d5 (Surr)	01	98-06-8	10-06.8	04/04/2019 09:30	04/08/2019 17:30							
Surr: Fluorobenzene (Surr)	01	74-83-2	5-03	04/04/2019 09:30	04/08/2019 17:30							
Surr: p-Terphenyl-d14 (Surr)	01	53-3-8	27-133	04/04/2019 09:30	04/08/2019 17:30							

Certificate of Analysis

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Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-18**

Laboratory Sample ID: **1809176-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1218	01	12874-11-2	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.026	0.200	1	ug/L	SKJ
PCB as Aroclor 1221	01	11904-26-2	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.200	0.200	1	ug/L	SKJ
PCB as Aroclor 1230	01	11945-16-5	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.015	0.200	1	ug/L	SKJ
PCB as Aroclor 1240	01	83485-21-8	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.041	0.200	1	ug/L	SKJ
PCB as Aroclor 1248	01	72072-29-6	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.046	0.200	1	ug/L	SKJ
PCB as Aroclor 1254	01	11067-66-7	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.038	0.200	1	ug/L	SKJ
PCB as Aroclor 1260	01	11098-82-0	EPA8082A	04/09/2019 10:10	04/12/2019 03:03	BL00		0.034	0.200	1	ug/L	SKJ
Sum PCB	01	100 %	30-105	04/09/2019 10:10	04/12/2019 03:03							SKJ
Sum PCMX	01	100 %	30-105	04/09/2019 10:10	04/12/2019 03:03							SKJ
4,4'-DDE	01	72-04-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
4,4'-DDD	01	72-85-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
4,4'-DDT	01	50-29-3	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Aldrin	01	509-00-2	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
alpha-BHC	01	519-54-0	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
gamma-BHC	01	272-85-7	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Chlordane	01	87-19-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.200	0.200	1	ug/L	SKJ
dieldrin	01	519-55-9	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Dibutyltin	01	60-27-1	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan I	01	509-66-4	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan II	01	51213-65-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan sulfate	01	1051-87-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Desin	01	73-20-8	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Desin allylate	01	7421-82-4	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
gamma-BHC (Lindane)	01	58-88-9	EPA8081B	04/09/2019 10:10	04/12/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1909176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
Heptachlor	01	76-44-8	SW8261B	04/09/2019 10:10	04/10/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Heptachlor epoxide	01	1024-57-8	SW8261B	04/09/2019 10:10	04/10/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Methoxychlor	01	72-43-9	SW8261B	04/09/2019 10:10	04/10/2019 03:03	BL00		0.005	0.050	1	ug/L	SKJ
Toxaphene	01	8001-35-2	SW8261B	04/09/2019 10:10	04/10/2019 03:03	BL00		0.005	1.00	1	ug/L	SKJ
Sum: PCMX	01	90.0 %	19-112	0409/2019 10:10	0410/2019 03:03							
Sum: DCB	01	85.0 %	27-131	0409/2019 10:10	0410/2019 03:03							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1809176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-79-5	SW8151A	04/08/2019 15:02	04/15/2019 13:47	BL00		0.010	0.00	1	ug/kg	SKB
2,4,5-TP (Silvex)	01	95-79-1	SW8151A	04/08/2019 15:02	04/15/2019 13:47	BL00		0.010	0.00	1	ug/kg	SKB
2,4-D	01	94-75-7	SW8151A	04/08/2019 15:02	04/15/2019 13:47	BL00		0.010	0.00	1	ug/kg	SKB
Simazine	01	88-86-7	SW8151A	04/08/2019 15:02	04/15/2019 13:47	BL00		0.010	0.00	1	ug/kg	SKB
Pentachlorophenol	01	87-86-0	SW8151A	04/08/2019 15:02	04/15/2019 13:47	BL00		0.010	0.00	1	ug/kg	SKB
Sum: DCAA (Sum)	01	88.0 %	31-87	04/08/2019 15:02	04/15/2019 13:47							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1909176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dichlorobenzene (DCB)	01	106-93-4	826011	04/09/2019 09:57	04/09/2019 16:01	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichlorobenzene	01	96-18-4	826011	04/09/2019 09:57	04/09/2019 16:01	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dichloro-3-methoxybenzene (DMCP)	01	96-12-8	826011	04/09/2019 09:57	04/09/2019 16:01	BLGD		0.008	0.010	1	ug/L	LBH

Certificate of Analysis

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Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-18

Laboratory Sample ID: 1909176-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-6	SM9128	04/10/2019 16:40	04/10/2019 11:49	BLDD	0	0.01	0.01	1	mg/L	JWB
Sulfide	01	5496-24-8	SM9115	04/09/2019 17:22	04/09/2019 17:23	BLDD	0	0.80	1.00	1	mg/L	TMB

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1809176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	02	7440-22-4	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	02	7440-38-2	800020A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.0	5.0	1	ug/L	NDV
Barium	02	7440-39-3	800010C	04/04/2019 17:30	04/05/2019 16:40	201		5.0	10.0	1	ug/L	SHL
Beryllium	02	7440-41-7	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		2.0	4.0	1	ug/L	SHL
Cadmium	02	7440-43-4	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	02	7440-48-4	800010C	04/04/2019 17:30	04/05/2019 16:40	10.5		2.0	4.0	1	ug/L	SHL
Chromium	02	7440-47-3	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		4.0	10.0	1	ug/L	SHL
Copper	02	7440-50-9	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		2.0	10.0	1	ug/L	SHL
Mercury	02	7440-01-6	800070A	04/11/2019 08:30	04/11/2019 15:50	BL00		0.20	0.20	1	ug/L	SHL
Nickel	02	7440-52-0	800010C	04/04/2019 17:30	04/05/2019 16:40	70.1		2.0	10.0	1	ug/L	SHL
Lead	02	7439-92-1	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		5.0	10.0	1	ug/L	SHL
Antimony	02	7440-35-2	800020A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.00	5.00	1	ug/L	NDV
Selenium	02	7782-49-2	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		40.0	50.0	1	ug/L	SHL
Tin	02	7440-31-6	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		20.0	20.0	1	ug/L	SHL
Thallium	02	7440-29-0	800020A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.00	5.00	1	ug/L	NDV
Zinc	02	7440-66-3	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		5.0	10.0	1	ug/L	SHL
Zn	02	7440-66-3	800010C	04/04/2019 17:30	04/05/2019 16:40	BL00		10.0	10.0	1	ug/L	SHL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809176-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trichloroethane	02	79-00-5	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	78-34-3	SW82000	04/09/2019 12:41	04/09/2019 12:41	1.76		0.40	1.00	1	ug/L	KCB
1,1-Dichloroethylene	02	75-35-4	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.70	1.00	1	ug/L	KCB
1,1-Dichloroethene	02	503-90-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	1.00	1	ug/L	KCB
1,2-Dichloropropane	02	88-18-4	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	129-02-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	1.00	1	ug/L	KCB
1,2-Dichlorobenzene	02	89-50-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	1.33		0.40	1.00	1	ug/L	KCB
1,2-Dichloroethane	02	107-06-2	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.70	1.00	1	ug/L	KCB
1,1-Dichloroethane	02	78-34-3	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
1,3-Dichloropropane	02	941-72-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	1.00	1	ug/L	KCB
1,3-Dichloropropane	02	142-28-6	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
1,4-Dichlorobenzene	02	106-46-7	SW82000	04/09/2019 12:41	04/09/2019 12:41	13.8		0.40	1.00	1	ug/L	KCB
2,2-Dichloropropane	02	504-20-7	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	2.00	1	ug/L	KCB
1,1,1-Trichloroethane (MIBK)	02	79-34-5	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	0.50	1	ug/L	KCB
2-Hexanone (MIBK)	02	501-72-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.20	0.50	1	ug/L	KCB
4-Methyl-2-pentanone (MIBK)	02	106-10-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		1.50	0.50	1	ug/L	KCB
Axetone	02	67-64-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		7.00	10.0	1	ug/L	KCB
Acetonitrile	02	75-05-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	10.0	1	ug/L	KCB
Aceton	02	107-02-8	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	10.0	1	ug/L	KCB
Acrylonitrile	02	107-13-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		1.70	0.50	1	ug/L	KCB
Adiponitrile	02	107-06-1	SW82000	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	1.00	1	ug/L	KCB

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1809176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	02	71-43-2	SW826008	04/09/2019 12:41	04/09/2019 12:41	1.73		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	02	75-27-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	0.80	1	ug/L	KCB
Bromoform	02	75-25-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	02	74-83-9	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
Carbon disulfide	02	75-13-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		1.00	10.0	1	ug/L	KCB
Carbon tetrachloride	02	56-23-5	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	1.00	1	ug/L	KCB
Chloroethane	02	108-90-7	SW826008	04/09/2019 12:41	04/09/2019 12:41	12.9		0.40	1.00	1	ug/L	KCB
Chloroethane	02	78-10-9	SW826008	04/09/2019 12:41	04/09/2019 12:41	0.03	J	0.70	1.00	1	ug/L	KCB
Chloroform	02	67-68-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	0.90	1	ug/L	KCB
Chloromethane	02	74-87-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.35	1.00	1	ug/L	KCB
Chloroprene	02	129-99-8	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	1.00	1	ug/L	KCB
cis-1,2-Dichloroethane	02	106-69-2	SW826008	04/09/2019 12:41	04/09/2019 12:41	4.87		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	02	10661-21-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	1.00	1	ug/L	KCB
Dibromochloromethane	02	129-68-1	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.35	0.80	1	ug/L	KCB
Dibromomethane	02	74-96-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
Dichlorodifluoromethane	02	75-71-9	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.35	1.00	1	ug/L	KCB
Ethyl methoxyacetate	02	97-83-2	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.70	0.80	1	ug/L	KCB
Ethylacetate	02	100-61-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCB
Hexachlorocyclopentadiene	02	67-66-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	0.80	1	ug/L	KCB
Isomethane	02	74-88-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	02	78-83-1	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		25.0	80.0	1	ug/L	KCB
m,p-Xylene	02	17801-23-	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.80	2.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1909174-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	02	96-63-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.70	2.00	1	ug/L	KCS
Methylcyclohexane	02	75-04-2	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCS
Propylene	02	107-12-9	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		7.00	40.0	1	ug/L	KCS
Styrene	02	100-42-8	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	02	127-18-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethane	02	106-66-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,2-Dichloropropane	02	10661-02-8	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	105-87-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		1.70	4.00	1	ug/L	KCS
Trihaloethylene	02	75-01-6	SW826008	04/09/2019 12:41	04/09/2019 12:41	1.89		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-68-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		0.40	1.00	1	ug/L	KCS
Vinyl acetate	02	106-05-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW826008	04/09/2019 12:41	04/09/2019 12:41	0.76		0.50	0.50	1	ug/L	KCS
Xylenes, Total	02	120-00-7	SW826008	04/09/2019 12:41	04/09/2019 12:41	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethane (Sum)	02	100 %	75-129	04/09/2019 12:41	04/09/2019 12:41							
Sum: 4-Bromofluoromethane (Sum)	02	69.7 %	75-130	04/09/2019 12:41	04/09/2019 12:41							
Sum: Dibromofluoromethane (Sum)	02	87.8 %	75-130	04/09/2019 12:41	04/09/2019 12:41							
Sum: Trihalo-08 (Sum)	02	101 %	75-130	04/09/2019 12:41	04/09/2019 12:41							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1809176-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GC/MS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.9	1	ug/L	JHV
1,2,5-Trichlorobenzene	02	95-93-4	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.88	9.43	1	ug/L	JHV
1,3-Dichlorobenzene	02	95-65-0	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.73	2.72	1	ug/L	JHV
1,4-Naphthoquinone	02	135-19-4	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.11	10.9	1	ug/L	JHV
1-Naphthylamine	02	124-32-7	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.99	10.9	1	ug/L	JHV
1,2,4,5-Tetra-chlorophenol	02	94-90-3	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.88	10.9	1	ug/L	JHV
2,4,6-Trichlorophenol	02	95-93-4	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.88	10.9	1	ug/L	JHV
2,4,6-Trichlorophenol	02	95-93-2	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.25	10.9	1	ug/L	JHV
1,4-Dimethylbenzene	03	120-83-2	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	10.9	1	ug/L	JHV
2,4-Dimethylphenol	02	105-67-8	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00	C	0.84	0.84	1	ug/L	JHV
2,4-Dinitrophenol	02	51-28-5	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		6.70	34.3	1	ug/L	JHV
2,4-Dinitrotoluene	02	121-14-0	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	10.9	1	ug/L	JHV
2,6-Dinitrophenol	02	87-62-0	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.88	10.9	1	ug/L	JHV
2,6-Dinitrotoluene	02	806-30-3	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		4.35	10.9	1	ug/L	JHV
2-Acetylnaphthalene	02	75-96-3	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.73	3.72	1	ug/L	JHV
2-Chloronaphthalene	02	91-58-7	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		4.88	10.9	1	ug/L	JHV
2-Chlorophenol	02	95-57-0	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.88	10.9	1	ug/L	JHV
2-Methylnaphthalene	02	91-07-6	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.9	1	ug/L	JHV
2-Naphthylamine	02	91-09-6	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.9	1	ug/L	JHV
2-Nitroaniline	02	88-78-4	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	21.7	1	ug/L	JHV
2-Nitrophenol	02	88-75-0	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	10.9	1	ug/L	JHV
3,3'-Dinitroazobenzidine	02	81-94-1	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		4.38	10.9	1	ug/L	JHV
3,3'-Dimethylbenzidine	02	119-83-7	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	2.72	1	ug/L	JHV
3-Methylcholanthrene	02	54-43-5	8190.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.88	10.9	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1909176-02**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
1-Nitrobenzene	02	94-04-2	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	21.7	1	ug/L	JHV
1,4-Dioxin-2-methylphenol	02	934-03-1	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		8.70	84.3	1	ug/L	JHV
4-Aminodiphenyl	02	93-07-1	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	19.9	1	ug/L	JHV
4-Bromodiphenyl ether	02	101-05-1	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	19.9	1	ug/L	JHV
4-Chlorodiphenyl ether	02	100-47-9	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	19.9	1	ug/L	JHV
4-Dimethyldiphenyl ether	02	3006-17-9	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	19.9	1	ug/L	JHV
4-Fluorodiphenyl ether	02	100-01-8	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	21.7	1	ug/L	JHV
4-Nitrodiphenyl ether	02	100-02-7	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	54.3	1	ug/L	JHV
8-Hydroxyquinoline	03	89-85-8	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	19.9	1	ug/L	JHV
1,12-Dimethylbenz (a) anthracene	02	81-87-8	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	19.9	1	ug/L	JHV
Acenaphthene	02	81-32-9	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		4.35	19.9	1	ug/L	JHV
Acenaphthylene	02	108-90-0	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		4.35	19.9	1	ug/L	JHV
Acenaphthone	02	85-85-2	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	21.7	1	ug/L	JHV
Anthracene	02	130-13-7	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.43	19.9	1	ug/L	JHV
Benzo (a) anthracene	02	94-04-3	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		0.05	0.05	1	ug/L	JHV
Benzo (a) pyrene	02	90-32-8	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		0.11	0.11	1	ug/L	JHV
Benzo (b) fluoranthene	02	200-05-0	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		4.35	19.9	1	ug/L	JHV
Benzo (ghi) perylene	02	181-24-2	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	19.9	1	ug/L	JHV
Benzo (k) fluoranthene	02	207-08-9	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		6.52	19.9	1	ug/L	JHV
Benzo (p) acenaphthene	02	100-81-4	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		1.09	21.7	1	ug/L	JHV
ben (2-Chloromethyl) naphthalene	02	111-45-1	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	19.9	1	ug/L	JHV
ben (2-Chloromethyl) ether	02	111-44-4	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	19.9	1	ug/L	JHV
2,2'-Oxide (1-chlorophenyl)	02	106-86-1	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	19.9	1	ug/L	JHV
ben (2-Ethylhexyl) phthalate	02	917-81-7	SW82700	04/04/2019 09:30	04/09/2019 22:00	BL00	C	2.73	2.73	1	ug/L	JHV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1809176-02

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	7.81	10.0	1	ug/L	JHV
Chlorobenzene	02	911-95-8	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	2.72	2.72	1	ug/L	JHV
Chrysene	02	218-01-8	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		4.30	10.0	1	ug/L	JHV
Dielsin	02	2003-38-4	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	2.72	1	ug/L	JHV
Diethyl (p,p') dithionene	02	93-70-3	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHV
Dibenzofuran	02	133-84-8	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	6.43	1	ug/L	JHV
Diethyl phthalate	02	84-66-2	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	10.0	1	ug/L	JHV
Dinitrobenzene	02	60-51-5	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	2.72	1	ug/L	JHV
Di-n-octyl phthalate	02	135-19-3	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	10.0	1	ug/L	JHV
Di-n-octyl phthalate	02	88-18-2	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		4.30	10.0	1	ug/L	JHV
Di-n-octyl phthalate	02	117-84-0	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	6.70	10.0	1	ug/L	JHV
Dibenzyltoluene	02	127-35-4	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		9.17	10.0	1	ug/L	JHV
Dieldrin	02	206-04-4	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	2.72	2.72	1	ug/L	JHV
Ethyl methanesulfonate	02	62-50-0	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		1.09	21.7	1	ug/L	JHV
Ethyl acetate	02	78-10-5	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.71	3.71	1	ug/L	JHV
Fluorfen	02	53-65-7	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	2.72	2.72	1	ug/L	JHV
Fluorenone	02	206-44-0	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.43	10.0	1	ug/L	JHV
Fluorene	02	86-73-7	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		4.30	10.0	1	ug/L	JHV
Hexachlorobenzene	02	118-74-1	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		0.06	0.06	1	ug/L	JHV
Hexachlorocyclopentadiene	02	87-68-3	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		4.89	10.0	1	ug/L	JHV
Hexachlorocyclopentadiene	02	77-47-4	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00	C	1.09	10.0	1	ug/L	JHV
Hexachloroethane	02	67-73-1	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	10.0	1	ug/L	JHV
Hexachloropropene	02	1655-71-7	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	2.72	1	ug/L	JHV
Indene (1,2,3-cd) pyrene	02	183-38-1	SW8270D	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	10.0	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1909176-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Acetone	02	66-09-8	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.89	10.0	1	ug/L	JHW
Acrylonitrile	02	78-06-1	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	10.0	1	ug/L	JHW
Benzofuran	02	120-66-1	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHW
Benzene	02	142-92-6	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00	C	2.17	2.72	1	ug/L	JHW
o-Cresol	02	95-99-9	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.89	10.0	1	ug/L	JHW
Methoxybenzene	02	91-08-9	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00	C	1.89	10.0	1	ug/L	JHW
Methyl methanesulfonate	02	66-27-3	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		1.89	10.0	1	ug/L	JHW
Methyl parathion	02	298-00-8	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	2.72	1	ug/L	JHW
Naphthalene	02	81-20-3	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.80	10.0	1	ug/L	JHW
Nitrobenzene	02	98-96-3	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.28	10.0	1	ug/L	JHW
n-Propylbenzylamine	02	95-16-6	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	2.72	1	ug/L	JHW
n-Propylmethylamine	02	62-75-6	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.28	10.0	1	ug/L	JHW
n-Propyl-n-butylamine	02	924-18-3	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHW
n-Propyl-n-propylamine	02	927-64-7	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.80	10.0	1	ug/L	JHW
n-Propylphenylamine	02	84-36-6	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.28	10.0	1	ug/L	JHW
n-Propylsulfonamide	02	10095-95-8	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	2.72	1	ug/L	JHW
n-Propylamine	02	100-75-4	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHW
n-Propylamine	02	930-39-2	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	2.72	1	ug/L	JHW
n,n-Diethyl phosphorothioate	02	126-68-1	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHW
n,n-Diethyl n-2-propenyl phosphorothioate	02	297-67-3	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	10.0	1	ug/L	JHW
o-Cresol	02	1215-77-2	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		3.28	10.0	1	ug/L	JHW
o-Cresol	02	95-49-7	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		6.70	10.0	1	ug/L	JHW
o-Toluidine	02	95-53-4	8193.710	04/04/2019 09:30	04/09/2019 22:00	BL00		2.17	2.72	1	ug/L	JHW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-28**

Laboratory Sample ID: **1909176-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	02	89-11-7	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		1.89	2.72	1	ug/L	JHV
p-Chloro-m-xcel	02	89-96-7	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		3.26	10.9	1	ug/L	JHV
Pentachlorobenzene	02	608-83-5	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.57	10.9	1	ug/L	JHV
Pentachlorodimethylbenzene (quintozene)	02	82-69-8	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		1.89	1.89	1	ug/L	JHV
Phenanthrene	02	92-44-2	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		1.99	10.9	1	ug/L	JHV
Fluorene	02	89-01-9	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		9.43	10.9	1	ug/L	JHV
Fluoranthene	02	106-95-1	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.72	10.9	1	ug/L	JHV
Fluorol	02	256-82-2	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.57	2.72	1	ug/L	JHV
p-Fluorophenanthrene	02	108-90-2	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.57	10.9	1	ug/L	JHV
Fluorene	02	89-01-9	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.57	10.9	1	ug/L	JHV
Pyrene	02	179-90-0	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		7.61	10.9	1	ug/L	JHV
Sulfone	02	74-58-7	8192700	04/04/2019 09:30	04/09/2019 22:00	BL00		2.57	2.72	1	ug/L	JHV
Surr: 1,4-Dichlorobenzene (Surr)	02	95-2	10-28	04/04/2019 09:30	04/09/2019 22:00							
Surr: 2,4-Dichlorophenyl (Surr)	02	95-2	9-87	04/04/2019 09:30	04/09/2019 22:00							
Surr: 2,6-Dichlorophenyl (Surr)	02	95-2	10-12	04/04/2019 09:30	04/09/2019 22:00							
Surr: Nitrobenzene-d5 (Surr)	02	95-2	10-66.8	04/04/2019 09:30	04/09/2019 22:00							
Surr: Fluorene-d10 (Surr)	02	95-2	5-33	04/04/2019 09:30	04/09/2019 22:00							
Surr: p-Terphenyl-d14 (Surr)	02	95-2	27-133	04/04/2019 09:30	04/09/2019 22:00							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1909176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	02	12674-11-2	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.026	0.200	1	ug/L	LBH
PCB as Aroclor 1221	02	11104-26-2	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.200	0.200	1	ug/L	LBH
PCB as Aroclor 1232	02	11145-14-5	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.018	0.200	1	ug/L	LBH
PCB as Aroclor 1240	02	83485-21-9	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.048	0.200	1	ug/L	LBH
PCB as Aroclor 1248	02	72072-29-4	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.090	0.200	1	ug/L	LBH
PCB as Aroclor 1254	02	11367-66-7	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.038	0.200	1	ug/L	LBH
PCB as Aroclor 1260	02	11006-82-0	EPA8082A	04/05/2019 13:28	04/09/2019 16:58	BL00		0.037	0.200	1	ug/L	LBH
Sum PCB	02		50.0 % 50-100	04/05/2019 13:28	04/09/2019 16:58							
Sum PCMX	02		50.0 % 50-100	04/05/2019 13:28	04/09/2019 16:58							
4,4'-DDE	02	72-04-8	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
4,4'-DDD	02	72-85-8	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00	C	0.008	0.008	1	ug/L	LBH
4,4'-DDT	02	50-29-3	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Aldrin	02	509-00-7	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
alpha-BHC	02	319-84-8	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
gamma-BHC	02	319-85-7	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.002	0.005	1	ug/L	LBH
Chlordane	02	87-19-9	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.200	0.200	1	ug/L	LBH
dieldrin	02	519-85-9	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Dieldrin	02	60-27-1	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Endosulfan I	02	509-88-4	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Endosulfan II	02	33213-65-9	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Endosulfan sulfate	02	1051-87-8	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.008	0.005	1	ug/L	LBH
Deslin	02	73-20-8	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00	C	0.008	0.008	1	ug/L	LBH
Endrin aldehyde	02	7427-82-4	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
permethrin (Lindane)	02	58-88-9	EPA8081B	04/05/2019 13:28	04/09/2019 16:58	BL00		0.008	0.005	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1909176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Dieldrin	02	75-44-8	SW8261B	0405/2019 13:29	0409/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Heptachlor epoxide	02	1024-87-5	SW8261B	0405/2019 13:29	0409/2019 16:58	BL00		0.005	0.005	1	ug/L	LBH
Methoxychlor	02	73-43-5	SW8261B	0405/2019 13:29	0409/2019 16:58	BL00	C	0.005	0.005	1	ug/L	LBH
Toxaphene	02	8001-35-2	SW8261B	0405/2019 13:29	0409/2019 16:58	BL00		0.250	1.10	1	ug/L	LBH
Sum: PCMX	02	55.0 %	19-112	0405/2019 13:29	0409/2019 16:58							
Sum: DGB	02	60.0 %	27-131	0405/2019 13:29	0409/2019 16:58							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1909176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	95-79-5	SW8151A	04/08/2019 15:02	04/15/2019 14:58	BLDD		0.010	5.00	1	ug/kg	SKB
2,4,5-TP (Silvex)	02	95-73-1	SW8151A	04/08/2019 15:02	04/15/2019 14:58	BLDD		0.010	5.00	1	ug/kg	SKB
2,4-D	02	94-75-7	SW8151A	04/08/2019 15:02	04/15/2019 14:58	BLDD		0.010	5.00	1	ug/kg	SKB
Simazine	02	88-86-7	SW8151A	04/08/2019 15:02	04/15/2019 14:58	BLDD		0.010	5.00	1	ug/kg	SKB
Pentachlorophenol	02	87-86-0	SW8151A	04/08/2019 15:02	04/15/2019 14:58	BLDD		0.010	5.00	1	ug/kg	SKB
Sum: DCAA (Sum)	02	90.0 %	31-57	04/08/2019 15:02	04/15/2019 14:58							\$

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-28

Laboratory Sample ID: 1909176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobiphenyls by GC/MS												
1,2-Dibromobiphenyl (DBB)	02	106-93-4	208011	04/09/2019 09:57	04/09/2019 15:39	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichlorobiphenyl	02	96-18-4	208011	04/09/2019 09:57	04/09/2019 15:39	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dibromo-3-chlorobiphenyl (DBCP)	02	96-12-8	208011	04/09/2019 09:57	04/09/2019 15:39	BLGD		0.008	0.010	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-29

Laboratory Sample ID: 1909176-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	61-12-6	SW9012B	04/11/2019 16:42	04/12/2019 11:57	BL00		0.01	0.01	1	mg/L	JMB
Sulfide	02	6496-24-8	SW9015	04/08/2019 17:22	04/08/2019 17:23	BL00		0.80	1.00	1	mg/L	TMB

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1909176-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	01	7440-22-4	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		5.0	10.0	1	ug/L	SHL
Antimony	01	7440-36-2	8000/7000A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-2	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BT 2		5.0	10.0	1	ug/L	SHL
Beryllium	01	7440-41-7	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		2.0	4.0	1	ug/L	SHL
Cadmium	01	7440-49-4	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	01	7440-48-4	8000/7000	04/04/2019 17:30	04/05/2019 16:47	3.1	J	3.0	4.0	1	ug/L	SHL
Chromium	01	7440-47-2	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		4.0	10.0	1	ug/L	SHL
Copper	01	7440-50-9	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		2.0	10.0	1	ug/L	SHL
Mercury	01	7440-97-4	8070/7070A	04/11/2019 08:37	04/11/2019 14:00	BL00		0.20	0.20	1	ug/L	SHL
Nickel	01	7440-52-0	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		2.0	10.0	1	ug/L	SHL
Lead	01	7439-92-1	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	01	7440-25-2	8000/7000A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		50.0	50.0	1	ug/L	SHL
Tin	01	7440-31-6	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		20.0	20.0	1	ug/L	SHL
Thallium	01	7440-29-4	8000/7000A	04/04/2019 17:30	04/05/2019 16:40	BL00		1.00	1.00	1	ug/L	BCV
Vanadium	01	7440-62-2	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		5.0	10.0	1	ug/L	SHL
Zinc	01	7440-66-6	8000/7000	04/04/2019 17:30	04/05/2019 16:47	BL00		10.0	10.0	1	ug/L	SHL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1909176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-6	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/09/2019 13:02	04/09/2019 13:03	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-2	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	79-36-4	SW82002	04/09/2019 13:02	04/09/2019 13:03	BL00		0.70	1.00	1	ug/L	KCS
1,1-Dichloroethene	02	803-08-8	SW82002	04/09/2019 13:02	04/09/2019 13:03	BL00		0.80	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
1,2,4-Trichloropropane	01	129-82-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.30	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW82002	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	75-27-5	SW82002	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	541-73-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	142-29-9	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	03	694-70-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.80	2.00	1	ug/L	KCS
2-Butanone (MIBK)	03	79-59-3	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		3.00	3.00	1	ug/L	KCS
2-Pentanone (MIBK)	03	98-119-8	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		3.20	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		1.80	3.00	1	ug/L	KCS
Acetone	03	67-64-1	SW82000	04/09/2019 13:02	04/09/2019 13:03	BL00		7.00	10.0	1	ug/L	KCS
Acetonitrile	03	75-05-8	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		8.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-02-8	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		6.50	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		1.70	3.00	1	ug/L	KCS
Allyl chloride	03	107-35-1	SW82008	04/09/2019 13:02	04/09/2019 13:03	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Benzene	01	71-43-2	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-5	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	03	75-27-4	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	0.50	1	ug/L	KCB
Bromofuran	04	75-28-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	05	74-83-9	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	1.00	1	ug/L	KCB
Carbon disulfide	06	75-18-0	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		1.00	10.0	1	ug/L	KCB
Carbon tetrachloride	07	96-23-9	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	1.00	1	ug/L	KCB
Chloroacetylene	08	100-00-7	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
Chloroethane	09	75-09-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.70	1.00	1	ug/L	KCB
Chloroform	10	67-68-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	11	74-87-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	1.00	1	ug/L	KCB
Chloroprene	12	106-65-6	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	0.50	1	ug/L	KCB
cis-1,2-Dichloroethylene	13	156-58-2	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	14	10041-40-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	15	13449-1	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.35	0.50	1	ug/L	KCB
Dibromomethane	16	74-96-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
Dibromodichloromethane	17	75-71-0	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.35	1.00	1	ug/L	KCB
Ethyl methoxyflor	18	67-63-2	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.70	0.00	1	ug/L	KCB
Ethylbenzene	19	100-41-4	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCB
Heptachlorobenzene	20	67-68-3	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	0.50	1	ug/L	KCB
Iodomethane	21	74-88-4	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	22	76-82-1	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		25.0	40.0	1	ug/L	KCB
m,p-Xylene	23	176621-23	SW826008	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	2.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809176-03**

Parameter	Sampl ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	02	95-63-6	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.70	2.00	1	ug/L	KCS
Methylvinyl ketone	03	75-26-2	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCS
Propylene	06	107-12-0	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		7.00	40.0	1	ug/L	KCS
Styrene	07	100-42-0	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCS
Isotrifluorobenzene (TFB)	08	127-18-4	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCS
Styrene	09	100-42-0	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethene	09	106-66-5	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.80	1.00	1	ug/L	KCS
trans-1,2-Dichloropropene	09	10661-02-8	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-57-6	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethene	09	75-01-6	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	75-09-4	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	109-05-4	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		0.50	0.50	1	ug/L	KCS
Xylenes, Total	09	1330-20-7	SW82000	04/09/2019 13:00	04/09/2019 13:00	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d4 (Sum)	09	93.0 %	75-120	04/09/2019 13:00	04/09/2019 13:00							
Sum: 4-Dibromofluorobenzene (Sum)	09	95.8 %	75-120	04/09/2019 13:00	04/09/2019 13:00							
Sum: Dibromofluoromethane (Sum)	09	93.8 %	75-120	04/09/2019 13:00	04/09/2019 13:00							
Sum: Toluene-d8 (Sum)	09	99.8 %	75-120	04/09/2019 13:00	04/09/2019 13:00							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1909176-03

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.9	1	ug/L	JAV
1,2,5-Trichlorobenzene	02	95-95-4	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.89	9.43	1	ug/L	JAV
1,3-Dichlorobenzene	03	95-95-9	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.73	2.72	1	ug/L	JAV
1,4-Naphthoquinone	04	135-19-4	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.11	10.9	1	ug/L	JAV
1-Naphthylamine	05	134-32-7	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.99	10.9	1	ug/L	JAV
2,3,4,5-Tetrachlorophenol	06	94-90-3	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.99	10.9	1	ug/L	JAV
2,4,6-Trichlorophenol	07	95-99-4	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.99	10.9	1	ug/L	JAV
2,4,6-Trichlorophenol	08	95-99-2	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		3.29	10.9	1	ug/L	JAV
3,4-Dimethoxybenzene	09	120-83-2	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	10.9	1	ug/L	JAV
2,4-Dimethylphenol	10	105-67-8	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00	C	9.84	9.84	1	ug/L	JAV
2,4-Dinitrophenol	11	51-28-5	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		6.70	14.3	1	ug/L	JAV
2,4-Dinitrotoluene	12	121-14-0	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	10.9	1	ug/L	JAV
2,6-Dinitrophenol	13	97-95-9	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.99	10.9	1	ug/L	JAV
2,6-Dinitrotoluene	14	906-30-3	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		4.35	10.9	1	ug/L	JAV
2-Acetylnaphthalene	15	7346-3	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		3.73	3.72	1	ug/L	JAV
2-Chloronaphthalene	16	91-58-7	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		4.99	10.9	1	ug/L	JAV
2-Chlorophenol	17	95-57-0	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		3.99	10.9	1	ug/L	JAV
2-Methylnaphthalene	18	91-07-6	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.9	1	ug/L	JAV
2-Naphthylamine	19	91-59-6	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.9	1	ug/L	JAV
2-Nitrobenzene	20	95-79-4	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JAV
2-Nitrophenol	21	95-75-9	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	10.9	1	ug/L	JAV
3,3'-Dinitroazobenzene	22	91-94-1	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		4.38	10.9	1	ug/L	JAV
3,3'-Dimethylbenzidine	23	119-83-7	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	2.72	1	ug/L	JAV
3-Methyltoluene	24	95-49-5	SM82700	04/04/2019 09:30	04/09/2019 22:21	BL00		1.99	10.9	1	ug/L	JAV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1-Nitrobenzene	01	99-08-2	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
1,3-Dioxo-2-methylbenzol	02	934-03-1	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		8.70	84.3	1	ug/L	JHV
4-Aminobenzene	03	93-07-1	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
4-Bromophenyl phenyl ether	05	101-85-3	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	38.0	1	ug/L	JHV
4-Chlorobenzene	07	106-47-8	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
4-Dichlorophenyl phenyl ether	01	1006-11-9	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	38.0	1	ug/L	JHV
4-Fluorobenzene	02	100-01-8	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
4-Nitrobenzol	03	100-02-7	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
5-Nitrobenzene	03	99-08-8	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
1,12-Dimethylbenz (a) anthracene	03	81-87-8	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
Acenaphthene	03	81-32-9	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		4.35	43.5	1	ug/L	JHV
Acenaphthylene	03	105-90-0	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		4.35	43.5	1	ug/L	JHV
Acenaphthone	03	95-85-2	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
Anthracene	03	130-13-7	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.43	34.3	1	ug/L	JHV
Benzo (a) anthracene	03	56-56-3	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		0.05	0.05	1	ug/L	JHV
Benzo (a) pyrene	03	50-32-6	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		0.11	0.11	1	ug/L	JHV
Benzo (b) fluoranthene	03	200-054-0	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		4.35	43.5	1	ug/L	JHV
Benzo (k) fluorene	03	181-24-2	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	21.7	1	ug/L	JHV
Benzo (k) fluoranthene	03	207-08-9	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		8.52	85.2	1	ug/L	JHV
Benzo (m) pteridine	03	100-81-4	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		1.08	10.8	1	ug/L	JHV
ben (2-Chloromethyl) naphthalene	03	111-81-1	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	38.0	1	ug/L	JHV
ben (2-Chloromethyl) ether	03	111-44-4	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	38.0	1	ug/L	JHV
2,2'-Oxide (1-chlorophenyl)	03	106-86-1	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	32.6	1	ug/L	JHV
ben (2-Ethylhexyl) phthalate	03	117-81-7	8260.710	04/04/2019 09:30	04/09/2019 22:21	BL00	C	2.73	27.3	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1809176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GC/MS												
Butyl benzyl phthalate	01	65-66-7	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	7.61	10.0	1	ug/L	JHV
Chlorobenzene	01	91-08-6	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	2.72	2.72	1	ug/L	JHV
Chrysene	01	218-01-8	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		4.26	10.0	1	ug/L	JHV
Dielsin	01	200-38-4	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	2.72	1	ug/L	JHV
Diethyl (p,p') dithionene	01	62-70-3	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
Dibenzofuran	01	131-64-8	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	6.43	1	ug/L	JHV
Diethyl phthalate	01	84-66-2	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	10.0	1	ug/L	JHV
Dinitrobenzene	01	65-81-5	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	2.72	1	ug/L	JHV
Di-n-octyl phthalate	01	129-11-3	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	10.0	1	ug/L	JHV
Di-n-octyl phthalate	01	88-14-2	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		4.26	10.0	1	ug/L	JHV
Di-n-octyl phthalate	01	117-84-0	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	6.70	10.0	1	ug/L	JHV
Dibenzyltoluene	01	127-35-4	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
Dieldrin	01	206-34-4	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	2.72	2.72	1	ug/L	JHV
Ethyl methanesulfonate	01	61-00-0	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		1.09	21.7	1	ug/L	JHV
Ethyl acetate	01	76-14-5	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	2.72	1	ug/L	JHV
Fluoranthene	01	51-65-7	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	2.72	2.72	1	ug/L	JHV
Fluorene	01	206-44-0	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		3.43	10.0	1	ug/L	JHV
Fluorene	01	66-73-7	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		4.26	10.0	1	ug/L	JHV
Hexachlorobenzene	01	118-74-1	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		0.06	0.06	1	ug/L	JHV
Hexachlorocyclopentadiene	01	67-68-3	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		4.89	10.0	1	ug/L	JHV
Hexachlorocyclopentadiene	01	77-47-4	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00	C	1.09	10.0	1	ug/L	JHV
Hexachlorobutadiene	01	67-73-1	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	10.0	1	ug/L	JHV
Hexachloropropene	01	1655-71-7	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	2.72	1	ug/L	JHV
Indene (1,2,3-cd) pyrene	01	183-38-1	SM8270D	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	10.0	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1909176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	01	60-00-0	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		1.89	10.0	1	ug/L	JHV
Acetone	01	75-06-6	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.72	10.0	1	ug/L	JHV
Acrylonitrile	01	126-98-1	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
Alkane	01	143-00-0	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00	C	2.17	2.72	1	ug/L	JHV
Amphetamine	01	99-06-9	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		1.09	10.0	1	ug/L	JHV
Methamphetamine	01	91-08-9	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00	C	1.09	10.0	1	ug/L	JHV
Methyl methanesulfonate	01	66-37-3	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		1.09	10.0	1	ug/L	JHV
Methyl parathion	01	298-00-0	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	2.72	1	ug/L	JHV
Naphthalene	01	81-20-3	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.80	10.0	1	ug/L	JHV
Nitrobenzene	01	98-96-3	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.29	10.0	1	ug/L	JHV
n-Nitrosodimethylamine	01	61-18-6	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.71	2.72	1	ug/L	JHV
n-Nitrosodimethylmethanamine	01	62-75-6	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.26	10.0	1	ug/L	JHV
n-Nitrosodiethylamine	01	924-16-3	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
n-Nitrosodipropylamine	01	621-64-7	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.80	10.0	1	ug/L	JHV
n-Nitrosodibutylamine	01	84-16-6	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.34	10.0	1	ug/L	JHV
n-Nitrosodihydroxymethylamine	01	10305-95-8	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	2.72	1	ug/L	JHV
n-Nitrosopiperidine	01	100-75-4	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
n-Nitrosopyrrolidine	01	930-05-2	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	2.72	1	ug/L	JHV
n,n-Dimethyl phosphorothioate	01	126-68-1	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
n,n-Diethyl n-2-propenyl phosphorothioate	01	297-67-3	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	10.0	1	ug/L	JHV
Amphetamine	01	1215-77-2	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		3.29	10.0	1	ug/L	JHV
Amphetamine	01	95-49-7	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		6.70	10.0	1	ug/L	JHV
Amphetamine	01	95-53-4	8193.710	04/04/2019 09:30	04/09/2019 22:21	BL00		2.17	2.72	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1909176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	69-11-7	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		1.89	2.72	1	ug/L	JW
p-Chloro-m-xcel	02	69-56-7	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		3.26	10.9	1	ug/L	JW
Pentachlorobenzene	03	609-03-9	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.17	10.9	1	ug/L	JW
Pentachloroantibenzene (quintolene)	05	82-09-8	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		1.89	1.89	1	ug/L	JW
Phenanthrene	04	92-44-2	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		1.89	10.9	1	ug/L	JW
Fluorene	01	89-01-8	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		9.43	10.9	1	ug/L	JW
Fluoranthene	02	106-06-1	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.72	10.9	1	ug/L	JW
Fluoranthene	03	206-02-2	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.17	2.72	1	ug/L	JW
p-Fluorophenanthrene	04	108-50-2	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.17	10.9	1	ug/L	JW
Fluorene	05	8960-54-8	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.17	10.9	1	ug/L	JW
Pyrene	06	179-09-0	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		7.61	10.9	1	ug/L	JW
Selene	02	94-56-7	8192700	04/04/2019 09:30	04/09/2019 22:31	BL00		2.17	2.72	1	ug/L	JW
Surr: 2,4,6-Trinitrophenol (Surr)	02	35.8 %	10-28	04/04/2019 09:30	04/09/2019 22:31							
Surr: 2-Fluorobiphenyl (Surr)	03	36.2 %	9-87	04/04/2019 09:30	04/09/2019 22:31							
Surr: 2-Fluorophenol (Surr)	01	73.0 %	10-27	04/04/2019 09:30	04/09/2019 22:31							
Surr: Nitrobenzene-d5 (Surr)	02	47.4 %	10-66.8	04/04/2019 09:30	04/09/2019 22:31							
Surr: Phenanthrene (Surr)	03	15.4 %	5-33	04/04/2019 09:30	04/09/2019 22:31							
Surr: p-Terphenyl-d14 (Surr)	03	50.3 %	27-133	04/04/2019 09:30	04/09/2019 22:31							

Certificate of Analysis

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Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-3A**

Laboratory Sample ID: **1909176-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	01	12674-11-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.228	0.222	1	ug/L	LBH
PCB as Aroclor 1221	02	11104-26-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.228	0.222	1	ug/L	LBH
PCB as Aroclor 1232	03	11147-14-5	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.017	0.222	1	ug/L	LBH
PCB as Aroclor 1240	04	83485-21-8	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.048	0.222	1	ug/L	LBH
PCB as Aroclor 1248	05	72672-29-4	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.092	0.222	1	ug/L	LBH
PCB as Aroclor 1254	06	11097-89-1	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.038	0.222	1	ug/L	LBH
PCB as Aroclor 1260	07	11098-82-0	EPA8082A	04/05/2019 13:28	04/08/2019 17:17	BL00		0.038	0.222	1	ug/L	LBH
Sum PCB	08	80.0 %	30-105	04/05/2019 13:28	04/08/2019 17:17							
Sum PCMX	09	75.0 %	30-105	04/05/2019 13:28	04/08/2019 17:17							
4,4'-DDE	01	72-64-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
4,4'-DDD	02	72-68-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00	C	0.008	0.008	1	ug/L	LBH
4,4'-DDT	03	50-29-3	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Aldrin	04	509-00-2	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
gamma-BHC	05	512-64-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
delta-BHC	06	512-68-2	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.002	0.008	1	ug/L	LBH
Chlordane	07	87-19-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.222	0.222	1	ug/L	LBH
dieldrin	08	512-65-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Dactin	09	60-57-1	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Endosulfan I	01	505-68-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Endosulfan II	02	33213-85-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Endosulfan sulfate	03	1021-37-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
Deslin	04	73-20-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00	C	0.008	0.008	1	ug/L	LBH
Endrin aldehyde	05	7421-82-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH
gamma-BHC (Lindane)	06	58-88-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:17	BL00		0.008	0.008	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1909176-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	SW8261B	0405/2019 13:29	0406/2019 17:17	BL00		0.006	0.006	1	ug/L	LBH
Heptachlor epoxide	02	1024-87-8	SW8261B	0405/2019 13:29	0406/2019 17:17	BL00		0.006	0.006	1	ug/L	LBH
Methoxychlor	03	72-43-9	SW8261B	0405/2019 13:29	0406/2019 17:17	BL00	C	0.008	0.008	1	ug/L	LBH
Toxaphene	05	8001-35-2	SW8261B	0405/2019 13:29	0406/2019 17:17	BL00		0.202	1.01	1	ug/L	LBH
Sum: PCMX	07	19.0 %	19-112	0405/2019 13:29	0406/2019 17:17							
Sum: DGB	09	65.0 %	27-131	0405/2019 13:29	0406/2019 17:17							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Client Sample ID: MW-1A

Laboratory Sample ID: 1909176-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-76-5	EPA8151A	04/08/2019 15:02	04/15/2019 15:21	BL00		0.010	5.00	1	ug/kg	SKB
2,4,5-TP (Silvex)	02	95-75-1	EPA8151A	04/08/2019 15:02	04/15/2019 15:21	BL00		0.010	5.00	1	ug/kg	SKB
2,4-D	03	94-75-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:21	BL00		0.010	5.00	1	ug/kg	SKB
Simazine	05	88-86-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:21	BL00		0.010	5.00	1	ug/kg	SKB
Pentachlorophenol	07	67-89-0	EPA8151A	04/08/2019 15:02	04/15/2019 15:21	BL00		0.010	5.00	1	ug/kg	SKB
Sum: DCAA (Sum)	03	80.0 %	31-87	04/08/2019 15:02	04/15/2019 15:21							

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Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1909176-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobiphenyls by GC/MS												
1,2-Dibromobiphenyl (DBB)	01	106-93-4	208011	04/09/2019 09:57	04/09/2019 16:18	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichlorobiphenyl	02	96-18-4	208011	04/09/2019 09:57	04/09/2019 16:18	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dibromo-3-chlorobiphenyl (DBCP)	03	96-12-8	208011	04/09/2019 09:57	04/09/2019 16:18	BLGD		0.008	0.010	1	ug/L	LBH

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Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-3A

Laboratory Sample ID: 1909176-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-5	SW9012B	04/11/2019 16:40	04/12/2019 11:40	BLGD		0.01	0.01	1	mg/L	JWB
Sulfide	02	15496-24-8	SW9015	04/08/2019 17:22	04/09/2019 17:23	BLGD		0.80	0.80	1	mg/L	TMB

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 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	04	7440-22-4	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	04	7440-39-2	800020A	04/04/2019 17:30	04/05/2019 16:49	BL00		1.0	5.0	1	ug/L	NDV
Barium	04	7440-39-2	800010C	04/04/2019 17:30	04/05/2019 16:49	428		5.0	10.0	1	ug/L	SHL
Beryllium	04	7440-41-7	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		2.0	4.0	1	ug/L	SHL
Cadmium	04	7440-43-4	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	04	7440-48-4	800010C	04/04/2019 17:30	04/05/2019 16:49	6.2		3.0	4.0	1	ug/L	SHL
Chromium	04	7440-47-2	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		4.0	10.0	1	ug/L	SHL
Copper	04	7440-50-9	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		3.0	10.0	1	ug/L	SHL
Mercury	04	7440-01-6	800070A	04/11/2019 08:30	04/11/2019 16:05	BL00		0.20	0.20	1	ug/L	SHL
Nickel	04	7440-52-0	800010C	04/04/2019 17:30	04/05/2019 16:49	7.1	J	2.0	10.0	1	ug/L	SHL
Lead	04	7439-92-1	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		5.0	10.0	1	ug/L	SHL
Antimony	04	7440-35-2	800020A	04/04/2019 17:30	04/05/2019 16:49	BL00		1.00	5.00	1	ug/L	NDV
Selenium	04	7782-49-2	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		40.0	50.0	1	ug/L	SHL
Tin	04	7440-31-6	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		50.0	20.0	1	ug/L	SHL
Thallium	04	7440-28-0	800020A	04/04/2019 17:30	04/05/2019 16:49	BL00		1.00	2.00	1	ug/L	NDV
Zinc	04	7440-66-6	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		5.0	10.0	1	ug/L	SHL
Zinc	04	7440-66-6	800010C	04/04/2019 17:30	04/05/2019 16:49	BL00		10.0	10.0	1	ug/L	SHL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
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Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809176-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	630-20-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-68-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	79-34-2	SW82000	04/09/2019 13:28	04/09/2019 13:28	1.47		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.70	1.00	1	ug/L	KCS
1,1-Dichloroethene	04	583-86-6	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	88-18-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	04	120-82-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	0.82	J	0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	78-37-5	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	94-73-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	142-28-6	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW82000	04/09/2019 13:28	04/09/2019 13:28	19.8		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	04	504-20-7	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	2.00	1	ug/L	KCS
Toluene (MIX)	04	78-10-2	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	0.50	1	ug/L	KCS
o-Xylene (MIX)	04	94-73-9	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	0.50	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	106-16-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		1.50	5.00	1	ug/L	KCS
Axetone	04	67-64-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		7.00	10.0	1	ug/L	KCS
Acetonitrile	04	75-05-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		8.50	10.0	1	ug/L	KCS
Aceton	04	107-03-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		8.50	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		1.70	5.00	1	ug/L	KCS
Adiponitrile	04	107-06-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS

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Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Benzene	04	71-43-2	SW82600	04/09/2019 13:28	04/09/2019 13:28	1.52		0.40	1.00	1	ug/L	KCB
Bromochloromethane	04	74-97-6	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	04	75-27-4	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	0.50	1	ug/L	KCB
Bromoflourine	04	75-25-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	04	74-83-9	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCB
Carbon disulfide	04	75-13-6	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		1.00	10.0	1	ug/L	KCB
Carbon tetrachloride	04	56-23-5	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.50	1.00	1	ug/L	KCB
Chlorobenzene	04	108-90-7	SW82600	04/09/2019 13:28	04/09/2019 13:28	9.05		0.40	1.00	1	ug/L	KCB
Chloroethane	04	78-10-9	SW82600	04/09/2019 13:28	04/09/2019 13:28	1.25		0.70	1.00	1	ug/L	KCB
Chloroform	04	67-68-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	04	74-87-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.35	1.00	1	ug/L	KCB
Chloroprene	04	125-29-8	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	1.00	1	ug/L	KCB
cis-1,2-Dichloroethane	04	106-69-2	SW82600	04/09/2019 13:28	04/09/2019 13:28	4.70		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloroethane	04	10661-01-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	04	129-68-1	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.25	0.50	1	ug/L	KCB
Dibromomethane	04	74-96-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCB
Dibromofluoromethane	04	75-71-9	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	1.00	1	ug/L	KCB
Ethyl methoxyflourine	04	97-63-2	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.70	0.50	1	ug/L	KCB
Ethylflourine	04	100-41-4	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCB
Heachlorobenzene	04	87-62-3	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	0.50	1	ug/L	KCB
Isomethane	04	74-88-4	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	04	78-83-1	SW82600	04/09/2019 13:28	04/09/2019 13:28	BL00		25.0	50.0	1	ug/L	KCB
m,p-Xylene	04	17801-23-1	SW82600	04/09/2019 13:28	04/09/2019 13:28	1.84	J	0.50	2.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	04	126-98-7	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	04	95-63-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.70	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		3.00	4.00	1	ug/L	KCS
n-Butane	04	62-47-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
Propene	04	107-13-0	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		1.00	40.0	1	ug/L	KCS
Butene	04	100-42-1	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
Isobutene	04	127-18-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.50	1.00	1	ug/L	KCS
trans-1,3-Cyclohexadiene	04	186-80-9	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-01-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-67-8	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		1.00	4.00	1	ug/L	KCS
Triisopropylene	04	79-51-5	SW82000	04/09/2019 13:28	04/09/2019 13:28	0.04	J	0.40	1.00	1	ug/L	KCS
Trichloroethylene	04	79-89-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	100-52-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	BL00		0.00	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW82000	04/09/2019 13:28	04/09/2019 13:28	0.58		0.50	0.50	1	ug/L	KCS
Aromatics, Total	04	1200-20-7	SW82000	04/09/2019 13:28	04/09/2019 13:28	1.77		1.00	3.00	1	ug/L	KCS
Sum: 1,4-Dioxane	04	69-0	79-130	04/09/2019 13:28	04/09/2019 13:28							
Sum: 4-Bromodioxane	04	68-8	79-130	04/09/2019 13:28	04/09/2019 13:28							
Sum: Dibromodioxane	04	68-3	79-130	04/09/2019 13:28	04/09/2019 13:28							
Sum: Tetrahydrofuran	04	69-7	79-130	04/09/2019 13:28	04/09/2019 13:28							

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809176-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHW
1,2,5-Trichlorobenzene	04	95-93-4	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	9.43	1	ug/L	JHW
1,3-Dichlorobenzene	04	95-95-0	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.71	2.72	1	ug/L	JHW
1,4-Dichlorobenzene	04	120-19-4	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.11	10.9	1	ug/L	JHW
1-Naphthylamine	04	124-32-7	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	10.9	1	ug/L	JHW
2,3,4,5-Tetrachlorophenol	04	94-90-3	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	10.9	1	ug/L	JHW
2,4,6-Trichlorophenol	04	95-93-4	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	10.9	1	ug/L	JHW
2,4,6-Trichlorophenol	04	95-93-2	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		3.20	10.9	1	ug/L	JHW
3,4-Dimethylphenol	04	123-83-2	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		3.26	10.9	1	ug/L	JHW
2,4-Dimethylphenol	04	105-67-8	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00	C	0.84	0.84	1	ug/L	JHW
2,4-Dinitrophenol	04	81-26-6	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		6.70	14.3	1	ug/L	JHW
2,4-Dinitrotoluene	04	121-14-0	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.72	10.9	1	ug/L	JHW
2,6-Dinitrophenol	04	87-62-0	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	10.9	1	ug/L	JHW
2,6-Dinitrotoluene	04	906-30-3	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		4.35	10.9	1	ug/L	JHW
2-Acetylnaphthalene	04	13466-3	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		3.71	3.72	1	ug/L	JHW
2-Chloronaphthalene	04	91-58-7	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		4.99	10.9	1	ug/L	JHW
2-Chlorophenol	04	95-57-0	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		3.99	10.9	1	ug/L	JHW
2-Methylnaphthalene	04	91-07-6	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHW
2-Naphthylamine	04	91-59-6	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHW
2-Nitroaniline	04	88-78-4	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	21.7	1	ug/L	JHW
2-Nitrophenol	04	88-75-0	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		3.26	10.9	1	ug/L	JHW
3,3'-Dinitroazobenzidine	04	81-84-1	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		4.38	10.9	1	ug/L	JHW
3,3'-Dimethylbenzidine	04	119-83-7	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		2.72	2.72	1	ug/L	JHW
3-Methylcholanthrene	04	54-43-5	8190.710	04/04/2019 09:30	04/09/2019 23:02	BL00		1.99	10.9	1	ug/L	JHW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1909176-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1-Nitrobenzene	04	99-08-2	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
1,3-Dioxo-2-methylphenol	04	934-03-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		8.70	84.3	1	ug/L	JHW
4-Aminodiphenyl	04	90-07-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
4-Bromodiphenyl ether	04	101-85-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.80	38.0	1	ug/L	JHW
4-Chlorodiphenyl ether	04	108-47-9	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
4-Dimethyldiphenyl ether	04	1006-17-9	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.80	38.0	1	ug/L	JHW
4-Fluorodiphenyl ether	04	100-01-8	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
4-Nitrodiphenyl ether	04	100-02-7	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
8-Hydroxyquinoline	04	89-85-8	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
1,12-Dimethylbenz (a) anthracene	04	81-87-8	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
Acenaphthene	04	81-32-9	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		4.35	43.5	1	ug/L	JHW
Acenaphthylene	04	105-96-0	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		4.35	43.5	1	ug/L	JHW
Acenaphthone	04	95-89-2	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
Anthracene	04	130-13-7	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.43	34.3	1	ug/L	JHW
Benzo (a) anthracene	04	94-01-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		0.66	6.66	1	ug/L	JHW
Benzo (a) pyrene	04	50-32-6	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		0.11	1.11	1	ug/L	JHW
Benzo (b) fluoranthene	04	200-99-2	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		4.35	43.5	1	ug/L	JHW
Benzo (k) fluorene	04	181-24-2	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	21.7	1	ug/L	JHW
Benzo (k) fluoranthene	04	207-08-9	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		8.52	85.2	1	ug/L	JHW
Benzo (p) acenaphthene	04	100-81-4	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		1.09	10.9	1	ug/L	JHW
ben (2-Chloromethyl) naphthalene	04	111-81-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.80	38.0	1	ug/L	JHW
ben (2-Chloromethyl) ether	04	111-48-4	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.80	38.0	1	ug/L	JHW
2,2'-Oxide (1-chlorophenyl)	04	108-86-1	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00		3.26	32.6	1	ug/L	JHW
ben (2-Ethylhexyl) phthalate	04	917-81-7	8260.710	04/04/2019 09:30	04/09/2019 23:00	BL00	C	2.72	27.2	1	ug/L	JHW

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1809176-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Butyl benzyl phthalate	04	65-66-7	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	7.81	10.9	1	ug/L	JHV
Chlorobenzene	04	91-08-6	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	2.72	2.72	1	ug/L	JHV
Chrysene	04	218-01-8	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		4.35	10.9	1	ug/L	JHV
Diakyl	04	2003-38-4	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.72	2.72	1	ug/L	JHV
Diethyl (p,p') anthracene	04	62-70-3	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
Dibenzofuran	04	133-84-8	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	5.43	1	ug/L	JHV
Diethyl phthalate	04	84-66-2	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV
Dinitrobenzene	04	65-61-5	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.72	2.72	1	ug/L	JHV
Di-n-octyl phthalate	04	125-11-3	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.80	10.9	1	ug/L	JHV
Di-n-octyl phthalate	04	84-74-2	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		4.35	10.9	1	ug/L	JHV
Di-n-octyl phthalate	04	117-84-0	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	5.70	10.9	1	ug/L	JHV
Dibenzyltoluene	04	127-55-4	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
Dieldrin	04	208-94-4	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	2.72	2.72	1	ug/L	JHV
Ethyl methanesulfonate	04	62-55-0	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		1.69	21.7	1	ug/L	JHV
Ethyl acetate	04	74-36-3	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.72	2.72	1	ug/L	JHV
Fluorifer	04	52-65-7	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	2.72	2.72	1	ug/L	JHV
Fluorenone	04	206-44-0	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		5.43	10.9	1	ug/L	JHV
Fluorene	04	84-73-7	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		4.35	10.9	1	ug/L	JHV
Hexachlorobenzene	04	118-74-1	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		0.05	0.05	1	ug/L	JHV
Hexachlorocyclopentadiene	04	87-68-3	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		4.89	10.9	1	ug/L	JHV
Hexachlorocyclopentadiene	04	77-47-4	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	1.09	10.9	1	ug/L	JHV
Hexachloroethane	04	67-73-1	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		5.85	10.9	1	ug/L	JHV
Hexachloropropene	04	1655-71-7	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	2.72	1	ug/L	JHV
Indane (1,2,3-cd) pyrene	04	183-38-1	SM82700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1809176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Acetone	04	69-09-8	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		1.89	10.9	1	ug/L	JHV
Acrylonitrile	04	78-06-1	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.72	10.9	1	ug/L	JHV
Benzonitrile	04	130-08-1	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
Biphenyl	04	143-00-0	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	2.17	2.72	1	ug/L	JHV
o-Cresol	04	95-49-7	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		1.89	10.9	1	ug/L	JHV
m-Cresol	04	91-08-9	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD	C	1.09	10.9	1	ug/L	JHV
Methyl methanesulfonate	04	69-27-3	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		1.09	10.9	1	ug/L	JHV
Methyl parathion	04	298-00-0	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	2.72	1	ug/L	JHV
Naphthalene	04	81-20-3	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.80	10.9	1	ug/L	JHV
Nonacene	04	68-98-3	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV
n-Nonacosylalcohol	04	65-18-6	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.72	2.72	1	ug/L	JHV
n-Nonacosylmethanol	04	62-75-9	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV
n-Nonacosyl-n-butylamine	04	929-18-3	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
n-Nonacosyl-n-propylamine	04	621-64-7	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.80	10.9	1	ug/L	JHV
n-Nonacosylamine	04	84-36-8	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV
n-Nonacosylmethylamine	04	10995-95-8	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	2.72	1	ug/L	JHV
n-Nonacosylamine	04	100-75-4	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
n-Nonacosylamine	04	830-05-2	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	2.72	1	ug/L	JHV
n,n-Diethyl phosphorothioate	04	128-68-1	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
n,n-Diethyl n-2-propenyl phosphorothioate	04	297-67-3	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	10.9	1	ug/L	JHV
o-Cresol	04	1215-77-2	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		3.26	10.9	1	ug/L	JHV
o-Cresol	04	95-49-7	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		6.70	10.9	1	ug/L	JHV
o-Toluidine	04	95-53-4	8260.700	04/04/2019 09:30	04/09/2019 23:02	BLOD		2.17	2.72	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-4**

Laboratory Sample ID: **1909176-04**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	04	88-11-7	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		1.89	2.72	1	ug/L	JHV
p-Chloro-m-xcel	04	88-96-7	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		3.26	10.9	1	ug/L	JHV
Pentachlorobenzene	04	608-03-5	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHV
Pentachloroantibenzene (quintozene)	04	82-09-8	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		1.89	1.89	1	ug/L	JHV
Phenanthrene	04	92-44-2	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		1.89	10.9	1	ug/L	JHV
Fluorene	04	89-01-8	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		3.43	10.9	1	ug/L	JHV
Fluoranthene	04	106-06-2	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.72	10.9	1	ug/L	JHV
Fluoranthene	04	206-02-2	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	2.72	1	ug/L	JHV
p-Fluorophenanthrene	04	108-90-2	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHV
Fluorene	04	206-02-2	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	10.9	1	ug/L	JHV
Pyrene	04	179-09-6	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		7.61	10.9	1	ug/L	JHV
Sulfone	04	84-56-7	8192700	04/04/2019 09:30	04/09/2019 23:02	BL00		2.17	2.72	1	ug/L	JHV
Surr: 2,4,6-Trinitrophenol (Surr)	04	27-81-6	19-28	04/04/2019 09:30	04/09/2019 23:02							
Surr: 2-Fluorobiphenyl (Surr)	04	27-81-6	9-27	04/04/2019 09:30	04/09/2019 23:02							
Surr: 2-Fluorophenol (Surr)	04	27-81-6	19-27	04/04/2019 09:30	04/09/2019 23:02							
Surr: Nitrobenzene-d5 (Surr)	04	91-20-3	19-28.8	04/04/2019 09:30	04/09/2019 23:02							
Surr: Fluorene (Surr)	04	89-01-8	5-33	04/04/2019 09:30	04/09/2019 23:02							
Surr: p-Terphenyl-d14 (Surr)	04	29-79-6	27-133	04/04/2019 09:30	04/09/2019 23:02							

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Client Sample ID: MW-4

Laboratory Sample ID: 1809176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	04	12674-11-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.027	0.211	1	ug/L	LBH
PCB as Aroclor 1221	04	11104-26-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.211	0.211	1	ug/L	LBH
PCB as Aroclor 1232	04	11141-14-5	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.018	0.211	1	ug/L	LBH
PCB as Aroclor 1240	04	83485-21-8	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.043	0.211	1	ug/L	LBH
PCB as Aroclor 1248	04	12072-29-0	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.091	0.211	1	ug/L	LBH
PCB as Aroclor 1254	04	11097-66-7	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.037	0.211	1	ug/L	LBH
PCB as Aroclor 1260	04	11098-82-0	EPA8082A	04/05/2019 13:28	04/08/2019 17:38	BL00		0.036	0.211	1	ug/L	LBH
Sum PCB	04	70.0 %	30-105	04/05/2019 13:28	04/08/2019 17:38							
Sum PCMX	04	70.0 %	30-105	04/05/2019 13:28	04/08/2019 17:38							
4,4'-DDE	04	72-04-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
4,4'-DDD	04	72-85-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00	C	0.008	0.003	1	ug/L	LBH
4,4'-DDT	04	50-29-3	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
Atrazine	04	109-00-2	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
alpha-BHC	04	519-84-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
gamma-BHC	04	219-85-7	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.021	0.003	1	ug/L	LBH
Chlordane	04	57-19-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.211	0.211	1	ug/L	LBH
dieldrin	04	519-85-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
Dieldrin	04	50-57-1	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
Endosulfan I	04	505-68-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
Endosulfan II	04	33213-65-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
Endosulfan sulfate	04	1031-87-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.008	0.003	1	ug/L	LBH
Endrin	04	73-20-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00	C	0.008	0.003	1	ug/L	LBH
Endrin aldehyde	04	7421-83-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH
gamma-BHC (Lindane)	04	58-88-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:38	BL00		0.005	0.003	1	ug/L	LBH

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Dieldrin	04	75-44-8	SM8281B	0405/2019 13:29	0409/2019 17:39	BL00		0.006	0.003	1	ug/L	LBH
Heptachlor epoxide	04	1024-57-8	SM8281B	0405/2019 13:29	0409/2019 17:39	BL00		0.006	0.003	1	ug/L	LBH
Methoxychlor	04	73-43-9	SM8281B	0405/2019 13:29	0409/2019 17:39	BL00	C	0.006	0.003	1	ug/L	LBH
Toxaphene	04	8001-35-2	SM8281B	0405/2019 13:29	0409/2019 17:39	BL00		0.211	1.05	1	ug/L	LBH
Sum: PCMX	04	10.0 %	19-112	0405/2019 13:29	0409/2019 17:39							
Sum: DCB	04	40.0 %	27-131	0405/2019 13:29	0409/2019 17:39							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	95-76-5	EPA8151A	04/08/2019 15:02	04/15/2019 15:45	BL00		0.010	0.00	1	ug/kg	SKB
2,4,5-TP (Sigma)	04	95-75-1	EPA8151A	04/08/2019 15:02	04/15/2019 15:45	BL00		0.010	0.00	1	ug/kg	SKB
2,4-D	04	94-75-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:45	BL00		0.010	0.00	1	ug/kg	SKB
Simazine	04	88-85-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:45	BL00		0.010	0.00	1	ug/kg	SKB
Pentachlorophenol	04	67-89-0	EPA8151A	04/08/2019 15:02	04/15/2019 15:45	BL00		0.010	0.00	1	ug/kg	SKB
Sum: DCAA (Sum)	04	85.0 %	31-87	04/08/2019 15:02	04/15/2019 15:45							

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Monochlorobenzene by GC/MS												
1,2-Dichlorobenzene (DCB)	04	106-93-4	208011	04/09/2019 09:57	04/09/2019 18:37	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	04	96-18-4	208011	04/09/2019 09:57	04/09/2019 18:37	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dichloro-3-methylpropane (DMCP)	04	96-12-8	208011	04/09/2019 09:57	04/09/2019 18:37	BLGD		0.008	0.010	1	ug/L	LBH

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-4

Laboratory Sample ID: 1909176-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysis Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-6	SW9012B	04/11/2019 16:40	04/12/2019 11:43	BL00	03	0.01	0.01	1	mg/L	JWB
Sulfide	04	15496-24-8	SW9015	04/08/2019 17:23	04/08/2019 17:23	BL00	03	0.00	0.00	1	mg/L	TMB

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1809176-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Silver	05	7440-22-4	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	05	7440-39-2	800020A	04/04/2019 17:30	04/05/2019 14:47	BL00		1.0	5.0	1	ug/L	BCV
Barium	05	7440-39-2	800010C	04/04/2019 17:30	04/05/2019 16:51	11.1		5.0	10.0	1	ug/L	SHL
Beryllium	05	7440-41-7	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		2.0	4.0	1	ug/L	SHL
Cadmium	05	7440-43-4	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	05	7440-48-4	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		3.0	4.0	1	ug/L	SHL
Chromium	05	7440-47-0	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		4.0	10.0	1	ug/L	SHL
Copper	05	7440-50-8	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		3.0	10.0	1	ug/L	SHL
Mercury	05	7439-97-8	807070A	04/11/2019 08:57	04/11/2019 14:07	BL00		0.20	0.20	1	ug/L	SHL
Nickel	05	7440-02-0	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		2.0	10.0	1	ug/L	SHL
Lead	05	7439-92-1	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		5.0	10.0	1	ug/L	SHL
Antimony	05	7440-35-0	800020A	04/04/2019 17:30	04/05/2019 14:47	BL00		1.00	5.00	1	ug/L	BCV
Selenium	05	7782-49-2	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		40.0	80.0	1	ug/L	SHL
Tin	05	7440-31-0	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		20.0	20.0	1	ug/L	SHL
Thallium	05	7440-28-4	800020A	04/04/2019 17:30	04/05/2019 14:47	BL00		1.00	3.00	1	ug/L	BCV
Vanadium	05	7440-02-0	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		5.0	10.0	1	ug/L	SHL
Zinc	05	7440-66-0	800010C	04/04/2019 17:30	04/05/2019 16:51	BL00		10.0	10.0	1	ug/L	SHL

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
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Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	630-20-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	05	71-68-8	SW82000	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	78-24-2	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.90	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	78-29-4	SW82002	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	05	563-09-8	SW82002	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS
1,2,3-Trichloropropene	05	96-18-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	05	120-82-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	95-50-1	SW82002	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS
1,3-Dichloroethane	05	107-06-2	SW82002	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-27-3	SW82002	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	541-73-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.30	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	142-29-9	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	05	564-20-7	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	2.00	1	ug/L	KCS
2-Butanone (MIBK)	05	79-50-3	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		3.00	3.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	99-10-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		3.20	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.80	3.00	1	ug/L	KCS
Acetone	05	67-64-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		7.00	10.0	1	ug/L	KCS
Acetonitrile	05	75-26-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		8.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-02-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		8.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.70	3.00	1	ug/L	KCS
Allyl chloride	05	107-25-1	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS

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 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1809176-45**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	05	71-43-2	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	0.50	1	ug/L	KCS
Bromofuran	05	75-25-2	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-99-9	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	05	75-19-0	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Chloroethane	05	75-00-3	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-68-2	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-5	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
Chloroacetylene	05	126-98-6	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	0.50	1	ug/L	KCS
cis-1,2-Dichloroethene	05	156-58-2	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10001-01-3	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	13449-1	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-90-3	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Dibromofluoromethane	05	75-71-0	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.35	1.00	1	ug/L	KCS
Ethyl methoxyfloride	05	67-63-2	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	0.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Heptachlorobenzene	05	67-68-3	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	0.50	1	ug/L	KCS
Iodomethane	05	74-89-4	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	76-82-1	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		25.0	40.0	1	ug/L	KCS
m,p-Xylene	05	179601-23	SW826005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	2.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-45**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Methacrylonitrile	05	126-98-7	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	05	95-63-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Propylene	05	107-12-0	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		7.00	40.0	1	ug/L	KCS
Styrene	05	100-43-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	05	127-18-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethene	05	106-66-5	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS
trans-1,2-Dichloropropene	05	10661-02-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-97-8	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.70	4.00	1	ug/L	KCS
Trichloroethene	05	75-01-5	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.40	1.00	1	ug/L	KCS
Trinitrofluorethane	05	75-09-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	05	109-05-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		3.00	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		0.70	0.70	1	ug/L	KCS
Xylenes, Total	05	100-10-7	SW82005	04/09/2019 13:48	04/09/2019 13:48	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d (Sum)	05	93.8 %	75-120	04/09/2019 13:48	04/09/2019 13:48							
Sum: 4-Bromofluorobenzene (Sum)	05	93.4 %	75-120	04/09/2019 13:48	04/09/2019 13:48							
Sum: Dibromofluorobenzene (Sum)	05	90.9 %	75-120	04/09/2019 13:48	04/09/2019 13:48							
Sum: Toluene-d6 (Sum)	05	90.5 %	75-120	04/09/2019 13:48	04/09/2019 13:48							

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Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-45**

Parameter	Envy ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	08	69-64-3	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	10.9	1	ug/L	JAV
1,2,5-Trichlorobenzene	08	69-56-4	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.88	9.43	1	ug/L	JAV
1,3-Dichlorobenzene	08	69-69-6	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.71	2.72	1	ug/L	JAV
1,4-Naphthoquinone	08	135-15-4	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.11	10.6	1	ug/L	JAV
1-Naphthylene	08	124-32-7	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.99	10.9	1	ug/L	JAV
2,3,4,5-Tetrachlorophenol	05	64-60-3	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.88	10.9	1	ug/L	JAV
2,4,5-Trichlorophenol	05	60-59-4	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.88	10.9	1	ug/L	JAV
2,4,6-Trichlorophenol	05	68-56-2	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		3.26	10.9	1	ug/L	JAV
3,4-Dichlorophenol	05	120-83-2	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		3.26	10.9	1	ug/L	JAV
2,4-Dimethylphenol	05	108-87-8	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00	C	0.84	0.84	1	ug/L	JAV
2,4-Dinitrophenol	05	81-76-5	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		6.70	34.3	1	ug/L	JAV
2,6-Dinitrophenol	05	121-14-0	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.72	10.9	1	ug/L	JAV
2,6-Dichlorophenol	05	67-65-0	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.88	10.9	1	ug/L	JAV
2,6-Dinitrotoluene	05	606-30-3	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	10.9	1	ug/L	JAV
2-Acetylnaphthalene	05	73-66-3	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		3.71	3.72	1	ug/L	JAV
2-Chloronaphthalene	05	91-58-7	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	10.9	1	ug/L	JAV
2-Chlorophenol	05	95-57-0	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		3.80	10.9	1	ug/L	JAV
2-Methylnaphthalene	05	91-07-6	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	10.9	1	ug/L	JAV
2-Naphthylene	05	91-69-6	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	10.9	1	ug/L	JAV
2-Nitrophenol	05	69-76-4	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	21.7	1	ug/L	JAV
2-Nitrophenol	05	69-75-5	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		3.26	10.9	1	ug/L	JAV
3,3'-Dinitrobenzidine	05	91-64-1	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	10.9	1	ug/L	JAV
3,3'-Dimethylbenzidine	05	108-83-7	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		2.72	2.72	1	ug/L	JAV
3-Methyltoluene	05	64-65-5	SW82700	04/04/2019 09:30	04/09/2019 20:00	BL00		1.88	10.9	1	ug/L	JAV

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GC/MS												
1-Nitrobenzene	05	99-05-2	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	21.7	1	ug/L	JHV
1,3-Dioxo-2-methylbenzol	05	934-03-1	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		8.70	84.3	1	ug/L	JHV
4-Aminobenzophenone	05	90-07-1	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	19.9	1	ug/L	JHV
4-Bromobenzophenone	05	101-05-1	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		3.80	19.9	1	ug/L	JHV
4-Chlorobenzophenone	05	100-47-9	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	19.9	1	ug/L	JHV
4-Dimethylaminobenzophenone	05	7904-17-9	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		3.80	19.9	1	ug/L	JHV
4-Fluorobenzophenone	05	100-01-6	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	21.7	1	ug/L	JHV
4-Nitrobenzophenone	05	100-02-7	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	54.3	1	ug/L	JHV
6-Methylsalicylic acid	05	99-05-8	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	19.9	1	ug/L	JHV
1,12-Dimethylbenz (a) anthracene	05	87-97-8	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	19.9	1	ug/L	JHV
Acenaphthene	05	85-32-9	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	19.9	1	ug/L	JHV
Acenaphthylene	05	100-96-0	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	19.9	1	ug/L	JHV
Acenaphthone	05	95-89-2	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	21.7	1	ug/L	JHV
Anthracene	05	130-13-7	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		5.43	19.9	1	ug/L	JHV
Benzo (a) anthracene	05	94-04-3	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		0.05	0.05	1	ug/L	JHV
Benzo (a) pyrene	05	50-32-6	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		0.11	0.11	1	ug/L	JHV
Benzo (b) fluoranthene	05	200-99-0	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		4.35	19.9	1	ug/L	JHV
Benzo (k) fluorene	05	181-24-2	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		2.17	19.9	1	ug/L	JHV
Benzo (k) fluoranthene	05	207-08-9	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		6.52	19.9	1	ug/L	JHV
Benzo (p) acenaphthene	05	100-81-4	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		1.09	21.7	1	ug/L	JHV
ben (2-Chloromethyl) naphthalene	05	111-91-1	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		3.80	19.9	1	ug/L	JHV
ben (2-Chloromethyl) ether	05	111-48-4	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		3.80	19.9	1	ug/L	JHV
2,2'-Oxylis (1-chloromethyl)	05	106-85-1	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00		3.26	19.9	1	ug/L	JHV
ben (2-Ethylhexyl) phthalate	05	117-81-7	8260.710	04/04/2019 09:30	04/09/2019 20:00	BL00	C	2.73	2.73	1	ug/L	JHV

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1809176-45**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semi-volatile Organic Compounds by GCMS												
Butyl benzyl phthalate	05	65-65-7	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	7.61	10.9	1	ug/L	JHV
Chlorobenzene	05	91-08-6	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	2.72	2.72	1	ug/L	JHV
Chrysene	05	218-01-8	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		4.35	10.9	1	ug/L	JHV
Dibenz	05	200-35-4	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.72	2.72	1	ug/L	JHV
Diethyl (p,p') dithiocarbamate	05	62-70-3	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	10.9	1	ug/L	JHV
Dibenzofuran	05	133-84-8	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	6.43	1	ug/L	JHV
Diethyl phthalate	05	84-66-2	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.26	10.9	1	ug/L	JHV
Dinitrobenzene	05	65-85-3	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.72	2.72	1	ug/L	JHV
Di-n-octyl phthalate	05	125-19-2	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.80	10.9	1	ug/L	JHV
Di-n-octyl phthalate	05	84-74-2	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		4.35	10.9	1	ug/L	JHV
Di-n-octyl phthalate	05	117-84-0	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	6.70	10.9	1	ug/L	JHV
Dibenzyltoluene	05	127-35-4	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	10.9	1	ug/L	JHV
Dieldrin	05	208-94-4	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	2.72	2.72	1	ug/L	JHV
Ethyl methanesulfonate	05	62-55-0	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		1.09	21.7	1	ug/L	JHV
Ethyl acetate	05	54-64-3	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.71	3.71	1	ug/L	JHV
Fluoranthene	05	53-60-7	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	2.72	2.72	1	ug/L	JHV
Fluorene	05	206-44-0	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.43	10.9	1	ug/L	JHV
Fluorene	05	84-73-7	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		4.35	10.9	1	ug/L	JHV
Hexachlorobenzene	05	118-74-1	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		0.05	0.05	1	ug/L	JHV
Hexachlorocyclopentadiene	05	67-68-3	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		4.89	10.9	1	ug/L	JHV
Hexachlorocyclopentadiene	05	77-47-4	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00	C	1.09	10.9	1	ug/L	JHV
Hexachlorobiphenyl	05	67-73-1	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.80	10.9	1	ug/L	JHV
Hexachloropropene	05	1655-71-7	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	2.72	1	ug/L	JHV
Indene (1,2,3-cd) pyrene	05	183-38-1	8262.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.26	10.9	1	ug/L	JHV

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	05	60-00-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		1.89	10.0	1	ug/L	JHV
Acetone	05	75-06-6	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.72	10.0	1	ug/L	JHV
Acrylonitrile	05	126-98-1	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	10.0	1	ug/L	JHV
Allyl Benzene	05	143-00-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00	C	2.17	2.72	1	ug/L	JHV
Amyl Alcohol	05	62999-04-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		1.09	10.0	1	ug/L	JHV
Methyl Acrylate	05	91-08-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00	C	1.09	10.0	1	ug/L	JHV
Methyl methanesulfonate	05	66-27-3	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		1.09	10.0	1	ug/L	JHV
Methyl paraffin	05	206-00-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	2.72	1	ug/L	JHV
Naphthalene	05	81-20-3	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.80	10.0	1	ug/L	JHV
Nitrobenzene	05	98-96-3	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		3.28	10.0	1	ug/L	JHV
n-Pentadecylbenzene	05	65-18-6	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.71	2.72	1	ug/L	JHV
n-Pentadecylmethylbenzene	05	62-75-6	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		3.25	10.0	1	ug/L	JHV
n-Pentadecyl-n-butylbenzene	05	929-18-3	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	10.0	1	ug/L	JHV
n-Pentadecylpropylbenzene	05	621-64-7	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		3.80	10.0	1	ug/L	JHV
n-Pentadecylstyrene	05	64-16-0	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		3.34	10.0	1	ug/L	JHV
n-Pentadecylthiophenylbenzene	05	10305-95-8	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	2.72	1	ug/L	JHV
n-Pentadecyltoluene	05	100-75-4	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	10.0	1	ug/L	JHV
n-Pentadecylxylene	05	920-05-2	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	2.72	1	ug/L	JHV
n,n-Dimethyl propylphosphonate	05	126-68-1	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	10.0	1	ug/L	JHV
n,n-Dimethyl n-2-propenyl phosphonate	05	267-87-3	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	10.0	1	ug/L	JHV
o-Cresol	05	1215-77-2	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		3.25	10.0	1	ug/L	JHV
o-Cresol	05	95-48-7	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		6.70	10.0	1	ug/L	JHV
o-Toluene	05	95-53-4	SM82700	04/04/2019 09:30	04/09/2019 23:00	BL00		2.17	2.72	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Culpeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Client Sample ID: **MW-26**

Laboratory Sample ID: **1909176-05**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-Dimethylbenzyl acetobenzene	05	95-11-7	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		1.89	2.72	1	ug/L	JW
p-Chloro-m-xylene	05	95-93-7	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.26	10.9	1	ug/L	JW
Pentachlorobenzene	05	608-03-1	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	10.9	1	ug/L	JW
Pentachloroantimonybenzene (quintabenz)	05	82-09-8	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		1.89	1.89	1	ug/L	JW
Phenanthrene	05	92-44-2	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		1.89	10.9	1	ug/L	JW
Fluorene	05	89-01-8	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		3.43	10.9	1	ug/L	JW
Fluoranthene	05	106-05-2	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.72	10.9	1	ug/L	JW
Fluoride	05	258-02-2	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	2.72	1	ug/L	JW
p-Fluorophenanthrene	05	108-90-2	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	10.9	1	ug/L	JW
Fluoranthene	05	258-02-2	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	10.9	1	ug/L	JW
Pyrene	05	179-09-6	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		7.61	10.9	1	ug/L	JW
Sulfone	05	94-55-7	8192.710	04/04/2019 09:30	04/09/2019 23:33	BL00		2.17	2.72	1	ug/L	JW
Surr: 1,4-Dibromobenzene (Surr)	05	308-61-9	19-88	04/04/2019 09:30	04/09/2019 23:33							
Surr: 2-Fluorobiphenyl (Surr)	05	41-0-0	9-87	04/04/2019 09:30	04/09/2019 23:33							
Surr: 2-Fluorophenol (Surr)	05	70-0-0	19-82	04/04/2019 09:30	04/09/2019 23:33							
Surr: Nitrobenzene-d5 (Surr)	05	91-08-0	19-88.8	04/04/2019 09:30	04/09/2019 23:33							
Surr: Phenol-d5 (Surr)	05	91-08-0	5-33	04/04/2019 09:30	04/09/2019 23:33							
Surr: p-Terphenyl-d14 (Surr)	05	53-3-0	27-133	04/04/2019 09:30	04/09/2019 23:33							



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909176-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	05	12674-11-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.026	0.222	1	ug/L	LBH
PCB as Aroclor 1221	05	11104-25-2	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.026	0.222	1	ug/L	LBH
PCB as Aroclor 1232	05	11145-14-5	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.017	0.222	1	ug/L	LBH
PCB as Aroclor 1242	05	83485-21-8	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.048	0.222	1	ug/L	LBH
PCB as Aroclor 1248	05	72672-29-4	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.062	0.222	1	ug/L	LBH
PCB as Aroclor 1254	05	11091-49-1	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.038	0.222	1	ug/L	LBH
PCB as Aroclor 1260	05	11095-81-5	EPA8082A	04/05/2019 13:28	04/08/2019 17:55	BL00		0.038	0.222	1	ug/L	LBH
Sum PCB	05	Σ10 %	39-105	04/05/2019 13:28	04/08/2019 17:55							
Sum PCMX	05	Σ10 %	39-105	04/05/2019 13:28	04/08/2019 17:55							
4,4'-DDE	05	72-54-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
4,4'-DDD	05	72-88-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00	C	0.008	0.058	1	ug/L	LBH
4,4'-DDT	05	50-29-3	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Aldrin	05	509-00-7	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
alpha-BHC	05	512-64-2	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
gamma-BHC	05	212-65-7	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.022	0.088	1	ug/L	LBH
Chlordane	05	87-19-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.222	0.222	1	ug/L	LBH
dieldrin	05	512-65-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Dibutyltin	05	65-27-1	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Endosulfan I	05	505-68-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Endosulfan II	05	33213-65-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Endosulfan sulfate	05	1021-37-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
Endrin	05	73-20-8	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00	C	0.008	0.058	1	ug/L	LBH
Endrin aldehyde	05	7421-82-4	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH
gamma-BHC (Lindane)	05	58-88-9	EPA8081B	04/05/2019 13:28	04/08/2019 17:55	BL00		0.008	0.058	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909176-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	05	76-44-8	SW8261B	0405/2019 13:29	0409/2019 17:55	BL00		0.008	0.008	1	ug/L	LBH
Heptachlor epoxide	05	1024-57-8	SW8261B	0405/2019 13:29	0409/2019 17:55	BL00		0.008	0.008	1	ug/L	LBH
Methoxychlor	05	72-43-9	SW8261B	0405/2019 13:29	0409/2019 17:55	BL00	C	0.008	0.008	1	ug/L	LBH
Toxaphene	05	8001-35-2	SW8261B	0405/2019 13:29	0409/2019 17:55	BL00		0.202	1.01	1	ug/L	LBH
Sum: PCMP	05	19.0 %	19-112	0405/2019 13:29	0409/2019 17:55							
Sum: DGB	05	40.0 %	27-131	0405/2019 13:29	0409/2019 17:55							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909176-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	95-79-5	EPA8151A	04/08/2019 15:02	04/15/2019 15:08	BL00		0.010	0.00	1	ug/kg	SKB
2,4,5-TP (Silvex)	05	95-79-1	EPA8151A	04/08/2019 15:02	04/15/2019 15:08	BL00		0.010	0.00	1	ug/kg	SKB
2,4-D	05	94-75-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:08	BL00		0.010	0.00	1	ug/kg	SKB
Simazine	05	88-90-7	EPA8151A	04/08/2019 15:02	04/15/2019 15:08	BL00		0.010	0.00	1	ug/kg	SKB
Pentachlorophenol	05	67-89-0	EPA8151A	04/08/2019 15:02	04/15/2019 15:08	BL00		0.010	0.00	1	ug/kg	SKB
Sum: DCAA (Sum)	05	95.0 %	31-87	04/08/2019 15:02	04/15/2019 15:08							\$

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909176-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromoethane (EDB)	05	106-93-4	826011	04/09/2019 09:57	04/09/2019 19:58	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	05	96-18-4	826011	04/09/2019 09:57	04/09/2019 19:58	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	826011	04/09/2019 09:57	04/09/2019 19:58	BLGD		0.008	0.010	1	ug/L	LBH

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Client Sample ID: MW-26

Laboratory Sample ID: 1909176-45

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analysed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	61-12-6	SW9012B	04/11/2019 16:40	04/12/2019 11:48	BLGD		0.01	0.01	1	mg/L	JWB
Sulfide	05	15496-24-8	SW9015	04/08/2019 17:22	04/08/2019 17:23	BLGD		0.80	1.00	1	mg/L	TMB



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Method (Title) by EPA 8000-7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BCD0167 - EPA200.2/R2.8

Blank (BCD0167-BLK1)

Prepared: 04/04/2019 Analyzed: 04/05/2019

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BCD0167-BS1)

Prepared: 04/04/2019 Analyzed: 04/05/2019

Barium	458	10.0	ug/L	500	93.6	80-120
Beryllium	455	4.0	ug/L	500	91.0	80-120
Cadmium	458	4.0	ug/L	500	91.6	80-120
Chromium	470	10.0	ug/L	500	94.0	80-120
Cobalt	468	4.0	ug/L	500	93.7	80-120
Copper	443	10.0	ug/L	500	88.6	80-120
Lead	483	10.0	ug/L	500	96.7	80-120
Nickel	482.3	10.0	ug/L	500	96.4	80-120
Selenium	438	50.0	ug/L	500	87.6	80-120
Silver	46.7	10.0	ug/L	100	46.7	80-120

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Notes: (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%RSD Limits	RPD	RPD Limit	Qual
Batch: BCD0187 - EPA208.2MSL										
LO3 (BCD0187-MS)										
					Prepared: 04/04/2019 Analyzed: 04/05/2019					
Tin	45.8	20.0	ug/L	50.0		91.7	80-120			
Vanadium	431	10.0	ug/L	500		90.2	80-120			
Zinc	409	10.0	ug/L	500		91.8	80-120			
LO3 (ep) (BCD0187-MS)										
					Prepared: 04/04/2019 Analyzed: 04/05/2019					
Barium	474	10.0	ug/L	500		94.8	80-120	1.24	20	
Beryllium	481	4.0	ug/L	500		92.2	80-120	1.28	20	
Calcium	465	4.0	ug/L	500		93.1	80-120	1.55	20	
Chromium	497	10.0	ug/L	500		93.4	80-120	1.67	20	
Cobalt	474	4.0	ug/L	500		94.7	80-120	1.11	20	
Copper	449	10.0	ug/L	500		89.9	80-120	1.51	20	
Lead	488	10.0	ug/L	500		93.6	80-120	1.06	20	
Nickel	497.7	10.0	ug/L	500		93.5	80-120	1.18	20	
Selenium	464	50.0	ug/L	500		92.8	80-120	1.33	20	
Silver	96.4	10.0	ug/L	100		96.4	80-120	0.219	20	
Tin	45.8	20.0	ug/L	50.0		93.8	80-120	2.32	20	
Vanadium	431	10.0	ug/L	500		91.7	80-120	1.57	20	
Zinc	409	10.0	ug/L	500		90.9	80-120	1.81	20	
Matrix Spike (BCD0187-MS)										
					Source: 1800175-01 Prepared: 04/04/2019 Analyzed: 04/05/2019					
Barium	529	10.0	ug/L	500	100	95.1	75-125			
Beryllium	499	4.0	ug/L	500	BLDD	97.8	75-125			
Calcium	473	4.0	ug/L	500	BLDD	94.8	75-125			
Chromium	482	10.0	ug/L	500	BLDD	95.4	75-125			
Cobalt	484	4.0	ug/L	500	12.1	95.4	75-125			
Copper	474	10.0	ug/L	500	BLDD	94.8	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Matrix (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0167 - EPA208.2MSL										
Matrix Spike (BCD0167-MS1)										
		Source: 1805175-01			Prepared: 04/04/2019 Analyzed: 04/05/2019					
Lead	471	10.0	ug/L	500	BLOD	94.2	75-125			
Nickel	471.3	10.0	ug/L	500	8.4	93.0	75-125			
Selenium	483	50.0	ug/L	500	BLOD	96.6	75-125			
Silver	104	10.0	ug/L	100	BLOD	104	75-125			E
Tin	37.8	20.0	ug/L	50.0	BLOD	75.1	75-125			
Vanadium	477	10.0	ug/L	500	BLOD	95.4	75-125			
Zinc	471	10.0	ug/L	500	BLOD	94.2	75-125			
Matrix Spike (BCD0167-MS2)										
		Source: 1900197-01			Prepared: 04/04/2019 Analyzed: 04/05/2019					
Barium	552	10.0	ug/L	500	44.4	102	75-125			
Beryllium	502	4.0	ug/L	500	BLOD	100	75-125			
Cadmium	493	4.0	ug/L	500	BLOD	98.6	75-125			
Chromium	499	10.0	ug/L	500	4.3	98.9	75-125			
Cobalt	496	4.0	ug/L	500	BLOD	99.3	75-125			
Copper	512	10.0	ug/L	500	22.9	97.9	75-125			
Lead	497	10.0	ug/L	500	BLOD	89.5	75-125			
Nickel	468.0	10.0	ug/L	500	6.1	96.4	75-125			
Selenium	500	50.0	ug/L	500	BLOD	90.8	75-125			
Silver	106	10.0	ug/L	100	BLOD	106	75-125			E
Tin	40.3	20.0	ug/L	50.0	BLOD	80.6	75-125			
Vanadium	494	10.0	ug/L	500	BLOD	98.8	75-125			
Zinc	1100	10.0	ug/L	500	810	98.8	75-125			
Matrix Spike Dup (BCD0167-MS2C)										
		Source: 1800175-01			Prepared: 04/04/2019 Analyzed: 04/05/2019					
Barium	517	10.0	ug/L	500	188	92.4	75-125	2.87	20	
Beryllium	471	4.0	ug/L	500	BLOD	94.2	75-125	3.78	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Method (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%RSD Limits	RPD	RPD Limit	Qual
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Batch: B000187 - EPA208.2(M)A

Matrix Spike Spig (B000187.0000)	Source: 1804/19-01	Prepared: 04/04/2019	Analyzed: 04/05/2019							
Cadmium	480	4.0	ug/L	500	BL00	90.0	75-125	2.80	20	
Chromium	488	10.0	ug/L	500	BL00	90.7	75-125	2.78	20	
Cobalt	476	4.0	ug/L	500	SL1	90.8	75-125	1.84	20	
Copper	490	10.0	ug/L	500	BL00	91.9	75-125	2.11	20	
Lead	492	10.0	ug/L	500	BL00	92.5	75-125	1.78	20	
Nickel	491.4	10.0	ug/L	500	6.4	91.0	75-125	2.14	20	
Selenium	488	50.0	ug/L	500	BL00	93.2	75-125	3.63	20	
Silver	97.7	10.0	ug/L	100	BL00	97.7	75-125	3.28	20	
Ti	97.1	20.0	ug/L	100	BL00	74.1	75-125	1.38	20	M
Vanadium	490	10.0	ug/L	500	BL00	92.9	75-125	2.67	20	
Zinc	490	10.0	ug/L	500	BL00	91.7	75-125	2.76	20	

Matrix Spike Spig (B000187.0000)	Source: 1804/19-01	Prepared: 04/04/2019	Analyzed: 04/05/2019							
Boron	506	10.0	ug/L	500	44.4	102	75-125	0.615	20	
Beryllium	913	4.0	ug/L	500	BL00	102	75-125	2.15	20	
Calcium	505	4.0	ug/L	500	BL00	101	75-125	1.99	20	
Chromium	511	10.0	ug/L	500	4.3	101	75-125	2.30	20	
Cobalt	500	4.0	ug/L	500	BL00	100	75-125	1.20	20	
Copper	520	10.0	ug/L	500	21.9	100	75-125	2.09	20	
Lead	506	10.0	ug/L	500	BL00	101	75-125	1.61	20	
Nickel	495.5	10.0	ug/L	500	8.1	97.8	75-125	1.48	20	
Selenium	504	50.0	ug/L	500	BL00	101	75-125	1.31	20	
Silver	100	10.0	ug/L	100	BL00	108	75-125	0.887	20	E
Ti	29.8	20.0	ug/L	100	BL00	79.8	75-125	1.00	20	
Vanadium	507	10.0	ug/L	500	BL00	101	75-125	2.58	20	



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Method (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limit	RPD	RPD Limit	Qual
Batch BCD0187 - EPA200.8 BSL										
Matrix Spike Dup (BCD0187-MSD0) Source: 1800187-01 Prepared: 04/04/2019 Analyzed: 04/08/2019										
Zinc	1710	10.0	ug/L	500	510	100	75-125	0.058	20	
Batch BCD0188 - EPA200.8 BSL										
Blank (BCD0188-BL01) Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	BLOD	5.00	ug/L							
Arsenic	BLOD	5.0	ug/L							
Thallium	BLOD	2.00	ug/L							
LCS (BCD0188-BSD1) Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	53.2	5.00	ug/L	50.0		105	80-120			
Arsenic	51	5.0	ug/L	50.0		102	80-120			
Thallium	63.3	2.00	ug/L	50.0		107	80-120			
LCS Dup (BCD0188-BSD1) Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	52.5	5.00	ug/L	50.0		105	80-120	1.18	20	
Arsenic	51	5.0	ug/L	50.0		101	80-120	0.327	20	
Thallium	53.1	2.00	ug/L	50.0		105	80-120	0.427	20	
Matrix Spike (BCD0188-MSD1) Source: 1800176-01 Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	54.1	5.00	ug/L	50.0	BLOD	108	75-125			
Arsenic	51	5.0	ug/L	50.0	BLOD	101	75-125			
Thallium	62.9	2.00	ug/L	50.0	BLOD	106	75-125			
Matrix Spike (BCD0188-MSD2) Source: 1800187-01 Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	54.8	5.00	ug/L	50.0	BLOD	110	75-125			
Arsenic	53	5.0	ug/L	50.0	BLOD	107	75-125			
Thallium	63.9	2.00	ug/L	50.0	BLOD	108	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCD0198 - EPA206.E.6.L.4										
Matrix Spike Dup (BCD0198-MS01)										
Source: 1908176-01 Prepared: 04/04/2019 Analyzed: 04/08/2019										
Antimony	53.5	5.00	ug/L	50.0	BLOD	107	75-125	1.08	20	
Arsenic	81	5.0	ug/L	50.0	BLOD	102	75-125	0.676	20	
Thallium	52.8	2.00	ug/L	50.0	BLOD	105	75-125	0.894	20	
Matrix Spike Dup (BCD0198-MS02)										
Source: 1908191-01 Prepared: 04/04/2019 Analyzed: 04/05/2019										
Antimony	54.7	5.00	ug/L	50.0	BLOD	109	75-125	0.233	20	
Arsenic	52	5.0	ug/L	50.0	BLOD	104	75-125	2.19	20	
Thallium	53.7	2.00	ug/L	50.0	BLOD	107	75-125	0.362	20	
Batch BCD0390 - 5W7470A										
Blank (BCD0390-BLK1)										
Prepared & Analyzed: 04/11/2019										
Mercury	BLOD	0.20	ug/L							
LCS (BCD0390-BS1)										
Prepared & Analyzed: 04/11/2019										
Mercury	2.34	0.20	ug/L	2.50		93.7	80-120			
LCS Dup (BCD0390-BS01)										
Prepared & Analyzed: 04/11/2019										
Mercury	2.46	0.20	ug/L	2.50		98.3	80-120	4.66	20	
Matrix Spike (BCD0390-MS1)										
Source: 1908176-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.54	0.20	ug/L	2.50	BLOD	61.7	80-120			nd
Matrix Spike (BCD0390-MS2)										
Source: 1908196-01 Prepared & Analyzed: 04/11/2019										
Mercury	2.28	0.20	ug/L	2.50	BLOD	91.2	80-120			
Matrix Spike Dup (BCD0390-MS01)										
Source: 1908176-01 Prepared & Analyzed: 04/11/2019										
Mercury	1.45	0.20	ug/L	2.50	BLOD	58.3	80-120	5.95	20	nd

Certificate of Analysis

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Metals (Total) by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limits	RPD	RPD Limit	Qual
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Batch: BCD0280 - SW1425A

Matrix Spike Conc (BCD0280-MS05)	Source: 1808199-01	Prepared & Analyzed: 04/10/2019							
Mercury	2.25	0.20 ug/L	2.50	BLDG	89.2	80-120	2.08	20	

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
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Batch: B000038 - B000008

Blank (B000038-BLANK)	Prepared & Analyzed: 04/09/2019									
1,1,1-Trichloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L							
1,1,2-Trichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethane	BL00	1.00	ug/L							
1,1-Dichloroethylene	BL00	1.00	ug/L							
1,1-Dichloroethene	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethene	BL00	1.00	ug/L							
1,2-Dichloroethane	BL00	1.00	ug/L							
1,2-Dichloroethene	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,3-Dichlorobenzene	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
1,4-Dichlorobenzene	BL00	1.00	ug/L							
2,2-Dichloropropane	BL00	2.00	ug/L							
2-Butanone (MEK)	BL00	5.00	ug/L							
2-Heptanone (MIBK)	BL00	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L							
Acetone	BL00	10.0	ug/L							
Acetonitrile	BL00	10.0	ug/L							
Acetone	BL00	10.0	ug/L							
Acrylonitrile	BL00	5.00	ug/L							
Allyl chloride	BL00	1.00	ug/L							
Benzene	BL00	1.00	ug/L							

Certificate of Analysis

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Volatiles Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NAREC Limit	RPD	RPD Limit	Qual
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Batch: B0001261 - B0001268

Blank (B0001261-B0001268)	Filtered & Analyzed 04/09/2019									
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromoflouride	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromomethane	BL00	5.00	ug/L							
o-1,2-Dichloromethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromochloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorofluoromethane	BL00	1.00	ug/L							
Ethyl methyl ether	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heachtrichlorofluorene	BL00	0.50	ug/L							
Iodomethane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methyl ether	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

Certificate of Analysis

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Date Issued: 4/16/2019 4:59:08PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NAREC Limit	RPD	RPD Limit	Qual
Batch: B000018 - B000008										
Metals (B000018-B000008) Prepared & Analyzed: 04/09/2019										
m-Xylene	BL00	1.00	ug/L							
Propene	BL00	40.0	ug/L							
Biphenyl	BL00	1.00	ug/L							
Tetrahydrofuran (THF)	BL00	1.00	ug/L							
Stilbene	BL00	1.00	ug/L							
trans-1,2-Dichloroethene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Toluene	BL00	1.00	ug/L							
Trichloroethylene	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	3.00	ug/L							
Sum: 1,3-Dichlorobutene (Sum)	45.7		ug/L	50.0		81.4		70-130		
Sum: 4-Bromobenzonitrile (Sum)	49.3		ug/L	50.0		98.6		70-130		
Sum: Chlorobenzonitrile (Sum)	55.1		ug/L	50.0		102		70-130		
Sum: Benzene-40 (Sum)	50.6		ug/L	50.0		101		70-130		
LCB (B000018-B000008) Prepared & Analyzed: 04/09/2019										
1,1,1-Trichloroethane	49.1	0.4	ug/L	50.0		97.2		80-130		
1,1,1-Trichloroethane	49.1	1	ug/L	50.0		98.3		85-130		
1,1,2-Trichloroethane	47.4	0.4	ug/L	50.0		94.7		80-130		
1,1,2-Trichloroethane	44.2	1	ug/L	50.0		88.5		75-125		
1,1-Dichloroethane	44.8	1	ug/L	50.0		89.6		70-125		
1,1-Dichloroethylene	41.3	1	ug/L	50.0		82.6		70-130		

Certificate of Analysis

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Volatiles Organics Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD00281 - BVD0008

LOQ (BCD00281-BVD)										
Prepared & Analyzed: 04/09/2019										
1,1-Dichloroethane	45.4	1	ug/L	50.0		90.8	75-125			
1,2,3-Trichloroethane	44.0	1	ug/L	50.0		87.9	75-125			
1,1,4-Trichloroethane	48.1	1	ug/L	50.0		96.2	80-130			
1,2-Dichlorobenzene	46.4	1	ug/L	50.0		92.8	75-125			
1,3-Dichlorobenzene	40.5	1	ug/L	50.0		80.9	75-125			
1,2-Dibromochloroethane	42.8	1	ug/L	50.0		85.6	75-125			
1,3-Dibromochloroethane	45.8	1	ug/L	50.0		91.7	75-125			
1,2-Dibromoethane	45.2	1	ug/L	50.0		90.7	75-125			
1,4-Dibromobenzene	41.1	1	ug/L	50.0		82.2	75-125			
1,2-Dibromopropane	51.8	2	ug/L	50.0		104	75-125			
2-Butanone (MEK)	47.4	5	ug/L	50.0		94.8	35-100			
3-Pentanone (MIBK)	47.7	5	ug/L	50.0		95.4	35-120			
4-Methyl-2-pentanone (MBO)	44.7	5	ug/L	50.0		89.4	30-120			
Acetone	45.8	10	ug/L	50.0		91.6	40-140			
Acrylonitrile	202	5	ug/L	200		126	75-150			
Benzene	44.5	1	ug/L	50.0		89.0	30-100			
Bromochloromethane	43.2	1	ug/L	50.0		86.4	30-100			
Bromodichloromethane	45.2	0.5	ug/L	50.0		90.4	75-120			
Bromofluoromethane	45.4	1	ug/L	50.0		90.7	35-120			
Bromomethane	54.5	1	ug/L	50.0		109	30-140			
Carbon disulfide	52.1	10	ug/L	50.0		104	30-100			
Carbon tetrachloride	45.9	1	ug/L	50.0		91.8	35-140			
Chlorobenzene	46.1	1	ug/L	50.0		92.2	30-120			
Chloroethane	42.7	1	ug/L	50.0		85.4	30-120			
Chloroform	45.8	0.5	ug/L	50.0		91.7	30-120			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD003M - 04092019

LOQ (BCD003M-001)			Prepared & Analyzed: 04092019							
Chloroethane	42.7	1	ug/L	50.0		85.4	80-120			
cis-1,2-Dichloroethylene	44.1	1	ug/L	50.0		88.2	75-120			
cis-1,3-Dichloropropene	47.0	1	ug/L	50.0		94.0	75-120			
Dibromochloromethane	48.9	0.5	ug/L	50.0		97.8	60-120			
Dibromomethane	45.0	1	ug/L	50.0		90.0	75-120			
Dibromofluoromethane	37.1	1	ug/L	50.0		74.2	30-100			
Ethylbenzene	44.8	1	ug/L	50.0		89.6	75-120			
Heptachlorobutadiene	48.2	0.8	ug/L	50.0		96.4	50-140			
m,p-Xylene	54.8	2	ug/L	100		54.8	75-150			
Methylene chloride	43.0	4	ug/L	50.0		86.0	55-140			
n-Butane	47.0	1	ug/L	50.0		94.0	55-120			
Styrene	47.0	1	ug/L	50.0		94.0	65-120			
Tetrachloroethylene (PCE)	58.8	1	ug/L	50.0		118	45-150			
Toluene	44.2	1	ug/L	50.0		88.4	75-120			
trans-1,2-Dichloroethylene	42.0	1	ug/L	50.0		84.0	50-120			
trans-1,3-Dichloropropene	45.2	1	ug/L	50.0		90.4	55-140			
Trichloroethylene	42.7	1	ug/L	50.0		85.4	75-120			
Trichlorofluoromethane	40.7	1	ug/L	50.0		81.4	60-140			
Vinyl chloride	44.7	0.5	ug/L	50.0		89.4	55-145			
Sum: 1,2-Dichloroethane et (Sum)				ug/L	50.0		87.2	75-120		
Sum: 4-Bromofluorobenzene (Sum)				ug/L	50.0		101	75-120		
Sum: Dibromofluoromethane (Sum)				ug/L	50.0		102	75-120		
Sum: Toluene et (Sum)				ug/L	50.0		88.8	75-120		

Matrix Spike (BCD003M-001)	Source: 180817140	Prepared & Analyzed: 04092019
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Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B000238 - B000238										
Main: Spike (B000238-MBT)										
Source: B000238-01 Prepared & Analyzed: 04/09/2019										
1,1,1,2-Tetrafluoroethane	42.5	0.4	ug/L	50.0	51.00	81.0	80-100			
1,1,1-Trifluoroethane	28.0	1	ug/L	50.0	51.00	77.8	80-100			
1,1,2,2-Tetrafluoroethane	42.8	0.4	ug/L	50.0	51.00	85.6	80-100			
1,1,2-Trifluoroethane	44.1	1	ug/L	50.0	51.00	88.2	75-120			
1,1-Difluoroethane	42.9	1	ug/L	50.0	6.27	73.8	75-100			
1,1-Dichloroethane	26.4	1	ug/L	50.0	51.00	76.8	75-100			
1,1-Dichloroethene	27.0	1	ug/L	50.0	51.00	74.0	75-100			W
1,2,2-Trichloroethane	29.2	1	ug/L	50.0	51.00	74.4	75-100			
1,2,4-Trichlorobenzene	39.9	1	ug/L	50.0	51.00	79.7	60-100			
1,2-Dichlorobenzene	42.8	1	ug/L	50.0	51.00	85.6	75-100			
1,2-Dichloroethane	38.8	1	ug/L	50.0	51.00	77.6	75-100			
1,2-Dichloroethene	40.9	1	ug/L	50.0	51.00	81.8	75-100			
1,3-Dichlorobenzene	41.5	1	ug/L	50.0	51.00	83.0	75-100			
1,3-Dichloroethane	42.1	1	ug/L	50.0	51.00	84.2	75-100			
1,4-Dichlorobenzene	42.6	1	ug/L	50.0	4.59	79.0	75-100			
2,2-Dichloropropane	26.7	2	ug/L	50.0	51.00	71.8	75-100			
2-Butanone (MEK)	46.1	5	ug/L	50.0	51.00	92.2	30-100			
2-Pentanone (MIBK)	46.0	5	ug/L	50.0	51.00	92.0	30-100			
4-Methyl-2-pentanone (MIBK)	43.7	5	ug/L	50.0	51.00	87.4	30-100			
Acetone	43.0	10	ug/L	50.0	51.00	86.0	40-140			
Acrylonitrile	250	5	ug/L	250	51.00	102	75-100			
Benzene	42.3	1	ug/L	50.0	51.00	84.6	60-100			
Bromochloromethane	24.0	1	ug/L	50.0	51.00	74.0	60-100			
Bromodichloromethane	40.4	0.5	ug/L	50.0	51.00	80.7	75-100			
Bromofluoromethane	42.0	1	ug/L	50.0	51.00	84.0	75-100			

Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B009238 - 0000008										
Matrix Spike (B009238-MS1)										
Source: 1809179-01 Prepared & Analyzed: 04/09/2019										
Bromomethane	23.3	1	ug/L	50.0	BLCO	46.6	30-140			
Carbon disulfide	48.0	10	ug/L	50.0	BLCO	96.0	30-160			
Carbon tetrachloride	26.7	1	ug/L	50.0	BLCO	53.4	30-140			
Chloroacetylene	49.0	1	ug/L	50.0	1.04	98.0	60-120			
Chloroethane	50.2	1	ug/L	50.0	1.81	98.8	60-120			
Chloroform	27.4	0.5	ug/L	50.0	BLCO	54.7	60-120			
Chloromethane	34.5	1	ug/L	50.0	BLCO	69.0	60-120			
cis-1,2-Dichloroethylene	45.1	1	ug/L	50.0	8.31	90.2	70-125			
cis-1,3-Dichloropropene	49.5	1	ug/L	50.0	BLCO	99.0	70-130			
Dibromochloromethane	44.8	0.5	ug/L	50.0	BLCO	89.6	60-120			
Dibromomethane	41.1	1	ug/L	50.0	BLCO	82.2	70-125			
Dichlorodifluoromethane	30.2	1	ug/L	50.0	BLCO	60.4	30-100			
Ethylbenzene	36.8	1	ug/L	50.0	BLCO	73.6	70-120			
Heptachlorobenzene	42.4	0.5	ug/L	50.0	BLCO	84.8	30-100			
Hex Fluoride	64.8	2	ug/L	120	BLCO	64.8	70-130			
Methylene chloride	30.0	4	ug/L	50.0	BLCO	75.0	30-140			
n-Heptane	42.0	1	ug/L	50.0	BLCO	84.0	60-120			
Hexane	44.1	1	ug/L	50.0	BLCO	88.2	60-120			
Tetrachloroethylene (PCE)	58.8	1	ug/L	50.0	BLCO	117.6	40-150			
Toluene	40.8	1	ug/L	50.0	BLCO	81.6	70-120			
trans-1,2-Dichloroethylene	30.4	1	ug/L	50.0	BLCO	60.8	60-140			
trans-1,3-Dichloropropene	39.9	1	ug/L	50.0	BLCO	79.8	60-140			
Trichloroethylene	41.3	1	ug/L	50.0	0.89	82.6	70-120			
Trichlorofluoromethane	34.3	1	ug/L	50.0	BLCO	68.6	60-140			
Vinyl chloride	37.4	0.5	ug/L	50.0	1.01	74.8	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: B000038 - 0000008

Matrix Spike (B000038-MS1)		Source: 1808175-01			Prepared & Analyzed: 04/09/2019					
Sum 1,2-Dichloroethane-d4 (Sum)	41.8		ug/L	50.0		83.6	75-120			
Sum 4-Bromofluorobenzene (Sum)	50.3		ug/L	50.0		101	75-120			
Sum 6-Bromofluorobenzene (Sum)	48.0		ug/L	50.0		96.0	75-120			
Sum Toluene-d8 (Sum)	49.9		ug/L	50.0		99.7	70-120			

Matrix Spike One (B000038-MS2)		Source: 1808175-01			Prepared & Analyzed: 04/09/2019					
1,1,1,2-Tetrafluoroethane	95.2	0.4	ug/L	90.0	BLOD	90.4	80-130	6.13	30	
1,1,1-Trichloroethane	40.9	1	ug/L	50.0	BLOD	81.9	65-130	4.93	30	
1,1,1,2-Tetrafluoroethane	48.4	0.4	ug/L	90.0	BLOD	92.9	65-130	8.53	30	
1,1,2-Trichloroethane	47.5	1	ug/L	50.0	BLOD	95.0	75-125	7.36	30	
1,1-Dichloroethane	44.0	1	ug/L	50.0	6.27	81.3	70-135	6.97	30	
1,1-Dichloroethene	39.7	1	ug/L	50.0	BLOD	77.4	70-130	8.82	30	
1,1-Dichloropropene	42.9	1	ug/L	50.0	BLOD	85.8	75-135	14.7	30	
1,2,3-Trichloropropene	45.4	1	ug/L	50.0	BLOD	90.9	75-125	14.8	30	
1,2,4-Trichlorobenzene	46.6	1	ug/L	90.0	BLOD	93.3	65-135	17.0	30	
1,2-Dichlorobenzene	47.6	1	ug/L	50.0	BLOD	94.9	70-120	10.8	30	
1,2-Dichloroethane	36.5	1	ug/L	90.0	BLOD	77.1	70-130	6.25	30	
1,2-Dichloropropene	42.8	1	ug/L	50.0	BLOD	85.6	75-125	4.27	30	
1,3-Dichlorobenzene	45.8	1	ug/L	90.0	BLOD	91.2	75-125	8.48	30	
1,3-Dichloropropene	44.3	1	ug/L	90.0	BLOD	88.6	75-125	5.07	30	
1,4-Dichlorobenzene	47.7	1	ug/L	90.0	4.89	88.2	75-125	9.01	30	
1,2-Dichloropropene	43.7	2	ug/L	90.0	BLOD	87.3	75-125	20.2	30	
2-Butanone (MIBK)	49.4	5	ug/L	90.0	BLOD	96.9	30-100	20.8	30	
2-Hexanone (MIBK)	51.7	5	ug/L	90.0	BLOD	103	35-130	14.3	30	
4-Methyl-2-pentanone (MIBK)	47.3	5	ug/L	90.0	BLOD	94.6	65-135	8.00	30	

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:59:08PM**

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00208 - 0000008										
Main: Spike Log (BCD00208-0000)										
Source: 1804179-01 Prepared & Analyzed: 04/09/2019										
Acetone	52.8	10	ug/L	50.0	54.00	108	80-180	20.4	30	30
Acrylonitrile	205	5	ug/L	200	51.00	102	75-150	2.192	30	30
Benzene	43.8	1	ug/L	50.0	51.00	87.6	90-150	5.71	30	30
Bromochloromethane	41.4	1	ug/L	50.0	51.00	82.8	65-120	6.69	30	30
Bromodichloromethane	42.3	0.5	ug/L	50.0	51.00	84.6	75-150	2.50	30	30
Bromotrichloromethane	55.4	1	ug/L	50.0	51.00	90.8	75-150	7.56	30	30
Bromomethane	35.1	1	ug/L	50.0	51.00	92.1	20-180	23.4	30	30
Carbon disulfide	41.0	10	ug/L	50.0	51.00	82.0	35-160	13.7	30	30
Carbon tetrachloride	49.0	1	ug/L	50.0	51.00	84.1	65-180	5.65	30	30
Chlorobenzene	45.0	1	ug/L	50.0	1.00	91.4	90-150	9.15	30	30
Dibromofluoromethane	35.4	1	ug/L	50.0	1.00	78.8	65-150	6.63	30	30
Chloroform	42.0	0.5	ug/L	50.0	51.00	82.0	65-150	13.8	30	30
Dichloromethane	45.4	1	ug/L	50.0	51.00	82.8	80-150	18.0	30	30
o-1,2-Dichlorobenzene	51.0	1	ug/L	50.0	5.00	95.0	75-150	10.0	30	30
o-1,2-Dichlorobenzene	52.0	1	ug/L	50.0	51.00	87.6	75-150	3.04	30	30
Dibromochloromethane	47.0	0.5	ug/L	50.0	51.00	84.0	65-150	4.70	30	30
Dibromomethane	44.4	1	ug/L	50.0	51.00	88.8	75-150	7.50	30	30
Dichlorodifluoromethane	33.3	1	ug/L	50.0	51.00	96.7	30-150	6.66	30	30
Ethylbenzene	43.8	1	ug/L	50.0	51.00	87.6	75-150	6.47	30	30
Hexachlorocyclopentadiene	49.0	0.8	ug/L	50.0	51.00	86.1	50-180	14.4	30	30
m,p-Xylenes	52.0	2	ug/L	100	51.00	92.0	75-150	6.00	30	30
Methylene chloride	43.0	4	ug/L	50.0	51.00	90.0	55-180	6.00	30	30
m-Xylene	45.7	1	ug/L	50.0	51.00	93.4	60-150	9.12	30	30
Styrene	45.0	1	ug/L	50.0	51.00	90.0	65-150	6.00	30	30
Tetrachloroethylene (PCE)	55.2	1	ug/L	50.0	51.00	102	85-150	6.64	30	30

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD002019 - 0000008

Matrix Spike Org (BCD002019-0000008)	Source: 1809179-01			Prepared & Analyzed: 04/09/2019						
Toluene	44.0	1	ug/L	50.0	BL00	88.0	75-120	8.08	30	
trans-1,2-Dichloroethene	38.9	1	ug/L	50.0	BL00	77.2	80-140	12.1	30	
trans-1,3-Dichloropropene	43.5	1	ug/L	50.0	BL00	86.9	55-140	6.54	30	
Trichloroethylene	42.0	1	ug/L	50.0	0.89	60.0	70-120	2.77	30	
Trichlorofluoromethane	35.2	1	ug/L	50.0	BL00	70.5	60-145	10.9	30	
Vinyl chloride	41.6	0.5	ug/L	50.0	2.15	78.8	60-145	10.5	30	
Sum: 1,2-Dichloroethane-d4 (Sum)	48.8		ug/L	50.0		97.6	70-120			
Sum: 4-Bromofluorobenzene (Sum)	49.7		ug/L	50.0		99.4	75-120			
Sum: Dibromofluoromethane (Sum)	47.8		ug/L	50.0		95.5	70-120			
Sum: Toluene-d8 (Sum)	47.9		ug/L	50.0		95.8	70-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: BCD0118 - SW0118C

Batch: BCD0118-BLK1		Prepared: 04/04/2018 Analyzed: 04/08/2018								
1,2,4,5-Tetrahalobenzene	BL00	10.0	ug/L							
1,3,5-Trihalobenzene	BL00	5.00	ug/L							
1,3-Dihalobenzene	BL00	2.50	ug/L							
1,4-Halobenzene	BL00	10.0	ug/L							
1-Naphthylamine	BL00	10.0	ug/L							
1,2,4,6-Tetrahalobenzene	BL00	10.0	ug/L							
2,4,6-Trihalobenzene	BL00	10.0	ug/L							
2,4,6-Trihalobenzene	BL00	10.0	ug/L							
2,4-Dihalobenzene	BL00	10.0	ug/L							
2,4-Dihalobenzene	BL00	5.00	ug/L							
2,4-Dihalobenzene	BL00	10.0	ug/L							
1,4-Dihalobenzene	BL00	10.0	ug/L							
2,6-Dihalobenzene	BL00	10.0	ug/L							
2,6-Dihalobenzene	BL00	10.0	ug/L							
2-Acetylaminofluorene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenol	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichloronaphthalene	BL00	10.0	ug/L							
2,7-Dimethylnaphthalene	BL00	2.50	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Nitrofluorene	BL00	20.0	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - BWM30C

Batch (B0001M-BL47)

Prepared: 04/04/2019 Analyzed: 04/08/2019

1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	20.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nonyl-4-sulfonate	BL00	10.0	ug/L							
1,10-Dibromofluorene (a) sulfonamide	BL00	10.0	ug/L							
Azaphenanthrene	BL00	10.0	ug/L							
Azobenzothiazole	BL00	10.0	ug/L							
Azoxylbenzene	BL00	20.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzene (a) sulfonamide	BL00	0.05	ug/L							
Benzene (a) sulfonamide	BL00	0.10	ug/L							
Benzene (b) fluoranthene	BL00	10.0	ug/L							
Benzene (g,h,i) perylene	BL00	10.0	ug/L							
Benzene (j) fluoranthene	BL00	10.0	ug/L							
Benzyl alcohol	BL00	20.0	ug/L							
bis (2-Chloromethyl) methane	BL00	10.0	ug/L							
bis (2-Chloromethyl) ether	BL00	10.0	ug/L							
1,7-Dicyclo (1-Phenylpropene)	BL00	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BL00	2.50	ug/L							
Butyl benzyl phthalate	BL00	10.0	ug/L							
Chlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - BWC19C

Batch (B0001M-BWC19)

Prepared: 04/04/2019 Analyzed: 04/08/2019

Chrysene	BL00	10.0	ug/L
Dibenz	BL00	2.50	ug/L
Dibenz (a,h) anthracene	BL00	10.0	ug/L
Dibenzofuran	BL00	5.00	ug/L
Dibutyl phthalate	BL00	10.0	ug/L
Dibutylene	BL00	2.50	ug/L
Dioctyl phthalate	BL00	10.0	ug/L
Dinonyl phthalate	BL00	10.0	ug/L
Dioctyl phthalate	BL00	10.0	ug/L
Diphenylene	BL00	10.0	ug/L
Dibutyl	BL00	2.50	ug/L
Ethyl methacrylate	BL00	20.0	ug/L
Ethyl parathion	BL00	2.50	ug/L
Fenchone	BL00	2.00	ug/L
Fluoranthene	BL00	10.0	ug/L
Fluorene	BL00	10.0	ug/L
Hexachlorobenzene	BL00	0.05	ug/L
Hexachlorobutadiene	BL00	10.0	ug/L
Hexachlorocyclopentadiene	BL00	10.0	ug/L
Hexachloroethane	BL00	10.0	ug/L
Hexachloropropene	BL00	2.00	ug/L
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L
Isobut	BL00	10.0	ug/L
Isophthal	BL00	10.0	ug/L
Isoprene	BL00	10.0	ug/L

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - SW0010C

Batch (B0001M-BL01)

Prepared: 04/04/2019 Analyzed: 04/08/2019

Acetone	BL00	2.50	ug/L							
m,p-Cresols	BL00	10.0	ug/L							
Methoxybenzene	BL00	10.0	ug/L							
Methyl methanesulfonate	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitroethylaniline	BL00	2.50	ug/L							
n-Nitroethoxyethylaniline	BL00	10.0	ug/L							
n-Nitroethoxy-N,N-dimethylaniline	BL00	10.0	ug/L							
n-Nitroethoxy-N-cyclohexylaniline	BL00	10.0	ug/L							
n-Nitroethoxyphenylamine	BL00	10.0	ug/L							
n-Nitrosodimethylaniline	BL00	2.50	ug/L							
n-Nitrosodiphenylamine	BL00	10.0	ug/L							
n-Nitrosopyrrolidine	BL00	10.0	ug/L							
n-Nitrosotetrahydroquinoline	BL00	2.50	ug/L							
o,o-Dithiol 4,4'-biphenyl phosphonothioic acid	BL00	10.0	ug/L							
o,m,p-Cresols	BL00	10.0	ug/L							
n-Cresol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetophenone	BL00	2.50	ug/L							
p-Chloro-m-cresol	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachloronitrobenzene (quinoline)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NASC Limit	RPD	RPD Limit	Qual
Batch BCD015M - SW015C										
Blank (BCD015M-BL01)										
Prepared: 04/04/2019 Analyzed: 04/08/2019										
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phenols	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Safrole	BLOD	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	32.6		ug/L	200		16.3	10-66			
Sum: 2-Fluorobiphenyl (Sum)	22.9		ug/L	100		22.9	9-87			
Sum: 2-Fluorophenol (Sum)	28.7		ug/L	200		14.4	10-52			
Sum: Nitrobenzene-d5 (Sum)	26.6		ug/L	100		26.6	10-68.5			
Sum: Phenol-d5 (Sum)	16.2		ug/L	200		9.08	5-33			
Sum: p-Terphenyl-d14 (Sum)	19.6		ug/L	100		19.6	27-133			S
LCS (BCD015M-B51)										
Prepared: 04/04/2019 Analyzed: 04/08/2019										
2,4,6-Trichlorophenol	10.8	10.0	ug/L	50.0		39.6	11-145			
2,4-Dichlorophenol	21.0	10.0	ug/L	50.0		42.0	11-75			
1,4-Dimethylbenzene	7.31	0.50	ug/L	50.0		14.0	10-121			
1,4-Dinitrophenol	49.2	50.0	ug/L	50.0		90.0	15-188			
1,4-Dinitrotoluene	34.6	10.0	ug/L	50.0		69.2	17-158			
3,4-Dinitrotoluene	26.7	10.0	ug/L	50.0		53.4	18-128			
1-Chloro-2-naphthalene	20.4	10.0	ug/L	50.0		40.8	27-88			
1-Chlorophenol	20.4	10.0	ug/L	50.0		40.8	15-118			
2-Nitrophenol	26.0	10.0	ug/L	50.0		52.0	15-115			
1,7-Dichloronaphthalene	28.8	10.0	ug/L	50.0		57.6	25-88			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: B00012M - BWM19C										
LOQ (B00012M-B01)										
Prepared: 04/04/2019 Analyzed: 04/08/2019										
4-Ethyl-2-methylhexyl	44.2	50.0	ug/L	50.0	55.4	55.4	25-120			
4-Bromophenyl phenyl ether	22.8	10.0	ug/L	50.0	45.2	45.2	15-110			
4-Chlorophenyl phenyl ether	18.7	10.0	ug/L	50.0	38.4	38.4	15-110			
4-Terphenyl	11.2	50.0	ug/L	50.0	22.4	22.4	12-70			
Acenaphthene	25.2	10.0	ug/L	50.0	40.8	40.8	18-85			
Acenaphthylene	20.8	10.0	ug/L	50.0	41.8	41.8	20-75			
Acetophenone	21.4	20.0	ug/L	50.0	42.8	42.8	0-200			
Anthracene	27.8	10.0	ug/L	50.0	55.1	55.1	35-95			
Benzal (a) anthracene	14.8	5.00	ug/L	50.0	30.2	30.2	25-95			
Benzal (a) pyrene	12.7	5.10	ug/L	50.0	25.2	25.2	10-110			
Benzal (a) fluoranthene	12.8	10.0	ug/L	50.0	25.8	25.8	25-75			
Benzal (a,b) perylene	14.4	10.0	ug/L	50.0	28.7	28.7	25-90			
Benzal (a) fluoranthene	15.4	10.0	ug/L	50.0	70.8	70.8	20-85			
Is (2-Chloromethyl) methane	21.8	10.0	ug/L	50.0	42.0	42.0	20-110			
Is (2-Chloromethyl) ether	20.7	10.0	ug/L	50.0	41.8	41.8	25-85			
2,2-Diethyl (1-chloropropene)	21.8	10.0	ug/L	50.0	41.4	41.4	25-85			
Is (2-Ethylhexyl) phthalate	22.8	2.50	ug/L	50.0	40.8	40.8	30-120			
Butyl benzyl phthalate	22.8	10.0	ug/L	50.0	40.7	40.7	30-110			
Chrysene	33.3	10.0	ug/L	50.0	66.7	66.7	20-80			
Dibenz (a,h) anthracene	34.0	10.0	ug/L	50.0	71.8	71.8	27-120			
Dodecyl phthalate	28.2	10.0	ug/L	50.0	52.4	52.4	20-120			
Dodecyl phthalate	22.9	10.0	ug/L	50.0	44.7	44.7	25-120			
Di-n-butyl phthalate	37.0	10.0	ug/L	50.0	74.0	74.0	30-110			
Di-n-octyl phthalate	14.2	10.0	ug/L	50.0	32.8	32.8	25-100			
Fluoranthene	12.8	10.0	ug/L	50.0	65.0	65.0	30-80			



Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
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Batch: 04042019 - 04092019

LOQ (04042019-04092019)		Prepared: 0404/2019 Analyzed: 0409/2019								
Fluorene	21.6	10.0	ug/L	50.0		43.0	16-87			
Hexachlorobenzene	25.7	0.05	ug/L	50.0		51.3	25-125			
Hexachlorocyclopentadiene	17.7	10.0	ug/L	50.0		38.8	25-125			
Hexachlorocyclopentadiene	12.1	10.0	ug/L	50.0		24.1	25-125			L
Hexachlorobenzene	15.2	10.0	ug/L	50.0		30.5	25-125			
Insane (1,2,4-tri) pyrene	34.8	10.0	ug/L	50.0		68.1	25-125			
Isophthalene	16.4	10.0	ug/L	50.0		36.9	10-110			
Isophtalene	18.7	10.0	ug/L	50.0		37.3	12-100			
Methylenecyclohexane	22.5	10.0	ug/L	50.0		45.0	30-97			
n-Nonadecane	8.41	10.0	ug/L	50.0		16.8	10-85			
n-Nitrofluorene	19.5	10.0	ug/L	50.0		39.0	12-97			
o-Chlorophthalene	21.3	10.0	ug/L	50.0		40.5	12-97			
p-Chlorophthalene	18.2	10.0	ug/L	50.0		36.3	10-91			
Phenanthrene	27.2	10.0	ug/L	50.0		54.5	30-88			
Phthal	8.54	10.0	ug/L	50.0		16.9	10-70			
Pyrene	29.0	10.0	ug/L	50.0		58.0	27-110			
Sum 2,4,6-Trichlorophenol (Sum)	58.8		ug/L	100		25.3	10-88			
Sum 2-Fluorophenyl (Sum)	21.2		ug/L	100		21.2	9-87			
Sum 2-Fluorophenol (Sum)	20.6		ug/L	100		10.3	10-82			
Sum Nitrobenzene all (Sum)	24.0		ug/L	100		24.8	10-85.8			
Sum Phthal all (Sum)	18.8		ug/L	100		8.39	5-58			
Sum p-Terphenyl/14 (Sum)	27.4		ug/L	100		27.4	27-133			

Matrix Spike (04042019-04092019)		Source: TR042019 Prepared: 0404/2019 Analyzed: 0409/2019								
2,4,6-Trichlorophenol	21.7	10.0	ug/L	51.5	BLND	42.1	11-78			

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B000124 - SW00100										
Main: Spike (B000124-001)										
Source: 180417S-01 Prepared: 04/04/2019 Analyzed: 04/08/2019										
2,4-Dichlorophenol	20.8	10.3	ug/L	01.5	BL00	20.8	11.75			
2,4-Dimethylphenol	18.9	9.02	ug/L	01.5	BL00	22.8	11.85			
2,4-Dinitrophenol	65.0	31.5	ug/L	01.5	BL00	126	11.750			u
2,4-Dinitrotoluene	41.4	19.9	ug/L	01.5	BL00	61.4	17.90			
2-Methyltoluene	31.4	15.3	ug/L	01.5	BL00	64.8	10.125			
2-Chloronaphthalene	19.3	9.5	ug/L	01.5	BL00	37.0	27.60			
2-Chlorophenol	20.0	10.3	ug/L	01.5	BL00	28.8	13.94			
2-Nitrophenol	26.0	10.3	ug/L	01.5	BL00	51.6	11.75			
2,7-Dichloronaphthalene	19.6	9.5	ug/L	01.5	BL00	26.1	10.65			
1,3-Dioxo-2-methylbenz	17.8	8.7	ug/L	01.5	BL00	112	60.150			
4-Bromophenyl phenyl ether	24.3	10.3	ug/L	01.5	BL00	51.0	15.750			
4-Chlorophenyl phenyl ether	21.7	10.3	ug/L	01.5	BL00	42.2	15.750			
4-Nitrophenol	17.8	01.5	ug/L	01.5	BL00	24.6	12.70			
Acenaphthene	20.0	10.3	ug/L	01.5	BL00	29.7	12.90			
Acenaphthylene	20.0	10.3	ug/L	01.5	BL00	28.8	12.90			
Acetylnaphthalene	20.2	20.8	ug/L	01.5	BL00	29.3	0.200			
Anthracene	11.0	10.3	ug/L	01.5	BL00	01.0	20.00			
Benz(a)anthracene	24.1	0.05	ug/L	01.5	BL00	69.2	25.00			
Benz(a)pyrene	24.3	0.10	ug/L	01.5	BL00	70.4	25.00			
Benz(b)fluoranthene	28.1	10.3	ug/L	01.5	BL00	59.0	25.75			
Benz(g,h,i)perylene	27.0	10.3	ug/L	01.5	BL00	71.7	25.00			
Benz(k)fluoranthene	20.4	10.3	ug/L	01.5	BL00	58.0	25.00			
1a (2-Chloromethyl) methane	20.8	10.3	ug/L	01.5	BL00	40.3	25.00			
1a (2-Chloromethyl) ether	19.7	10.3	ug/L	01.5	BL00	34.2	25.00			
2,2'-Dicyclo (1-ethoxy)acetate	20.0	10.3	ug/L	01.5	BL00	38.8	25.07			

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Date Issued: 4/16/2019 4:59:08PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
Batch: BCD012M - SW0150C										
Main: Spike (BCD012M-011)										
	Source: 180417N-01			Prepared: 04/04/2018 Analyzed: 04/08/2018						
Is (2-Ethylhexyl) phthalate	25.7	2.58	ug/L	51.5	BLCO	49.8	30-125			
Butyl benzyl phthalate	24.1	10.3	ug/L	51.5	BLCO	48.7	30-115			
Chrysenes	36.2	19.3	ug/L	51.5	BLCO	70.3	20-95			
Diethyl phtalate	26.4	10.3	ug/L	51.5	BLCO	76.9	27-126			
Dibenz (a,h) anthracene	31.1	14.3	ug/L	51.5	BLCO	61.8	25-130			
Dimethyl phthalate	26.9	10.4	ug/L	51.5	BLCO	48.8	25-125			
Dio-n-butyl phthalate	41.7	10.3	ug/L	51.5	BLCO	60.9	25-115			
Di-n-octyl phthalate	17.3	10.3	ug/L	51.5	BLCO	30.8	20-105			
Fluorethene	17.9	16.9	ug/L	41.5	BLCO	72.1	20-95			
Fluorene	24.0	10.3	ug/L	51.5	BLCO	48.8	18-87			
Hexachlorobenzene	28.1	0.05	ug/L	51.5	BLCO	54.8	25-125			
Hexachlorocyclopentadiene	21.7	16.3	ug/L	51.5	BLCO	48.1	25-125			
Hexachloroindene	15.1	16.3	ug/L	51.5	BLCO	21.2	10-85			
Hexachloronaphthalene	17.4	16.3	ug/L	51.5	BLCO	22.7	25-125			
Indene (1,2,3-cd) pyrene	28.8	10.2	ug/L	51.5	BLCO	74.4	25-125			
Ioprene	17.1	10.3	ug/L	51.5	BLCO	20.1	10-110			
Naphthalene	15.1	16.3	ug/L	51.5	BLCO	35.1	12-100			
Nitrobenzene	21.8	16.3	ug/L	51.5	BLCO	42.3	21-77			
n-Butylbenzylphthalate	15.1	16.3	ug/L	51.5	BLCO	19.8	10-85			
n-Butyl-n-propylphthalate	18.7	16.3	ug/L	51.5	BLCO	36.3	12-87			
n-Butylcyclohexylphthalate	25.1	16.3	ug/L	51.5	BLCO	48.8	12-87			
p-Chloro-n-octadecane	24.1	16.3	ug/L	51.5	BLCO	48.7	10-91			
Phenanthrene	21.8	16.3	ug/L	51.5	BLCO	61.8	25-115			
Phenol	0.80	16.3	ug/L	52.1	BLCO	17.1	10-75			
Pyrene	27.8	16.3	ug/L	51.5	BLCO	52.1	23-110			

Certificate of Analysis

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Date Issued: 4/16/2019 4:59:08PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD019M - SW019C										
Matrix Spike (BCD019M-MS1)										
		Source: 1808178-01			Prepared: 04/04/2019		Analyzed: 04/08/2019			
Sum 2,4,6-Tribromophenol (Sum)	88.7		ug/L	200		81.8	10-80			
Sum 2-Fluorophenyl (Sum)	19.8		ug/L	500		19.2	0-87			
Sum 2-Fluorophenol (Sum)	20.2		ug/L	200		9.80	10-60			S
Sum Nitrobenzene-D7 (Sum)	24.1		ug/L	100		23.3	10-90.0			
Sum Phenol-D5 (Sum)	18.1		ug/L	200		7.80	5-30			
Sum p-Nitrophenyl-D4 (Sum)	24.8		ug/L	100		26.0	27-133			S
Matrix Spike Dup (BCD019M-MS2)										
		Source: 1808178-02			Prepared: 04/04/2019		Analyzed: 04/08/2019			
1,4-Dioxane	29.3	11.4	ug/L	55.8	BLOD	45.6	11-75	15.4	20	
1,4-Dioxolane	22.1	11.1	ug/L	55.8	BLOD	41.6	11-75	12.0	20	
1,4-Dioxahydro	21.5	0.56	ug/L	55.8	BLOD	38.8	11-65	24.1	20	P
1,4-Dioxaphenol	55.7	55.8	ug/L	55.8	BLOD	124	11-110	5.53	20	M
1,4-Dioxatoluene	46.8	11.1	ug/L	55.8	BLOD	64.2	17-95	12.1	20	
1,5-Dioxatoluene	29.9	11.1	ug/L	55.8	BLOD	71.8	15-125	17.7	20	
1-Chloro-2-naphthol	13.8	11.1	ug/L	55.8	BLOD	40.6	27-89	15.5	20	
2-chlorophenol	22.7	11.1	ug/L	55.8	BLOD	40.9	19-64	12.7	20	
2-Nitrophenol	30.7	11.1	ug/L	55.8	BLOD	55.3	11-75	14.3	20	
3,7-Dichlorobenzofuran	18.1	11.1	ug/L	55.8	BLOD	34.4	10-85	2.73	20	
4,6-Dichloro-2-methylphenol	61.8	55.8	ug/L	55.8	BLOD	111	40-130	8.07	20	
4-Bromophenyl phenyl ether	30.9	11.1	ug/L	55.8	BLOD	55.7	15-110	18.2	20	
4-Chlorophenyl phenyl ether	29.2	11.1	ug/L	55.8	BLOD	45.3	15-110	14.8	20	
4-Nitrophenol	19.7	55.8	ug/L	55.8	BLOD	35.8	12-70	8.94	20	
Acenaphthene	23.8	11.1	ug/L	55.8	BLOD	43.8	15-90	16.3	20	
Acenaphthylene	21.8	11.1	ug/L	55.8	BLOD	42.8	15-89	14.1	20	
Acetophenone	25.3	22.2	ug/L	55.8	BLOD	41.8	0-200	13.8	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limits	RPD	RPD Limit	Qual
Batch: BCD0118 - RW0118C										
Main: Spike Spg (BCD0118-RW0118C)										
Source: 180417N-01 Prepared: 04/04/2018 Analyzed: 04/04/2018										
Anthracene	26.2	11.1	ug/L	55.8	BL00	51.2	25-85	9.85	20	
Benzo (a) anthracene	26.4	0.08	ug/L	55.8	BL00	55.8	25-85	9.85	20	
Benzo (a) pyrene	28.1	8.51	ug/L	55.8	BL00	88.8	25-82	4.87	20	
Benzo (b) fluoranthene	26.7	11.1	ug/L	55.8	BL00	66.0	25-75	1.61	20	
Benzo (g,h,i) perylene	26.6	11.1	ug/L	55.8	BL00	69.8	25-80	4.29	20	
Benzo (k) fluoranthene	46.1	11.1	ug/L	55.8	BL00	72.2	25-85	12.5	20	
Is (2-Chloromethyl) methylene	23.0	11.1	ug/L	55.8	BL00	41.2	25-85	9.85	20	
Is (2-Chloromethyl) ether	22.9	11.1	ug/L	55.8	BL00	41.5	25-85	15.1	20	
1,2,3,4-Dibenz (h,k) anthracene	59.8	11.1	ug/L	55.8	BL00	41.7	25-87	14.7	20	
Is (2-Ethylhexyl) phthalate	21.4	2.79	ug/L	55.8	BL00	49.2	20-129	6.48	20	
Butyl benzyl phthalate	27.1	11.1	ug/L	55.8	BL00	48.8	20-118	11.8	20	
Chrysene	17.8	11.1	ug/L	55.8	BL00	88.2	20-90	4.42	20	
Dibenz (a,h) anthracene	45.8	11.1	ug/L	55.8	BL00	71.8	17-129	3.82	20	
Dibutyl phthalate	25.3	11.1	ug/L	55.8	BL00	62.2	20-120	12.4	20	
Dimethyl phthalate	29.9	11.1	ug/L	55.8	BL00	53.8	25-125	17.4	20	
Dio-n-butyl phthalate	44.2	11.1	ug/L	55.8	BL00	79.8	20-118	5.79	20	
Di-n-octyl phthalate	19.8	11.1	ug/L	55.8	BL00	55.2	22-105	12.2	20	
Fluoranthene	26.2	11.1	ug/L	55.8	BL00	70.4	25-85	5.28	20	
Fluorene	27.8	11.1	ug/L	55.8	BL00	52.2	15-87	15.2	20	
Hexachlorobenzene	22.2	0.08	ug/L	55.8	BL00	58.8	25-125	13.4	20	
Hexachlorobutadiene	23.2	11.1	ug/L	55.8	BL00	41.8	20-125	7.8	20	
Hexachlorocyclopentadiene	17.1	11.1	ug/L	55.8	BL00	20.7	10-90	6.84	20	
Hexachloroethane	20.2	11.1	ug/L	55.8	BL00	28.8	20-125	15.2	20	
Indene (1,2,3-cd) pyrene	26.8	11.1	ug/L	55.8	BL00	71.2	20-125	9.21	20	
Isophthalate	19.8	11.1	ug/L	55.8	BL00	25.2	10-118	12.7	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD0128 - SW0219C										
Main: Spike Spg (BCD0128-SW02)										
Source: 180417141 Prepared: 04/04/2019 Analyzed: 04/08/2019										
Naphthalene	20.8	11.1	ug/L	85.8	BLOD	38.8	12-100	12.3	20	
Nitrobenzene	25.3	11.1	ug/L	85.8	BLOD	45.8	27-77	14.8	20	
m-Nitrodimethylaniline	15.2	11.1	ug/L	85.8	BLOD	37.4	10-88	40.7	20	P
m-Nitroo-n-propylaniline	21.4	11.1	ug/L	85.8	BLOD	39.0	12-67	14.4	20	
o-Nitroaniline	27.8	11.1	ug/L	85.8	BLOD	50.1	12-97	10.5	20	
p-Chloro-m-cresol	24.8	11.1	ug/L	85.8	BLOD	50.3	10-81	14.9	20	
Phenanthrene	35.1	11.1	ug/L	85.8	BLOD	63.2	35-115	11.1	20	
Phenol	11.0	11.1	ug/L	85.1	BLOD	19.7	10-70	21.1	20	P
Pyrene	82.9	11.1	ug/L	85.8	BLOD	58.2	23-110	16.6	20	
Sum 2,4,6-Trinitrophenol (Sum)	78.8		ug/L	100		35.5	10-66			
Sum 2-Fluorobenzyl (Sum)	20.8		ug/L	110		20.3	9-67			
Sum 2-Fluorophenol (Sum)	23.8		ug/L	100		11.5	10-32			
Sum Nitrobenzene-d5 (Sum)	27.8		ug/L	110		24.9	10-88.5			
Sum Chlorobenz (Sum)	38.8		ug/L	100		9.01	5-33			
Sum p-Toluenol d14 (Sum)	26.8		ug/L	110		26.5	27-133			S

Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
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Batch: B020218 - B020218C

Batch (B020218-B0218C)	Prepared: 04/02/2018 Analyzed: 04/08/2018									
4,4'-DDD	BL00	0.200	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
PCB as Aroclor 1232	BL00	0.200	ug/L							
4,4'-DDE	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.200	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
Atrazine	BL00	0.200	ug/L							
alpha-BHC	BL00	0.200	ug/L							
beta-BHC	BL00	0.200	ug/L							
Chlordane	BL00	0.200	ug/L							
delta-BHC	BL00	0.200	ug/L							
DDT	BL00	0.200	ug/L							
Endosulfan I	BL00	0.200	ug/L							
Endosulfan II	BL00	0.200	ug/L							
Endosulfan sulfate	BL00	0.200	ug/L							
Ethion	BL00	0.200	ug/L							
Ethion aldehyde	BL00	0.200	ug/L							
gamma-BHC (Lindane)	BL00	0.200	ug/L							
Heptachlor	BL00	0.200	ug/L							
Heptachlor epoxide	BL00	0.200	ug/L							
Methoxychlor	BL00	0.200	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limit	RPD	RPD Limit	Qual
Batch: B026288 - SW215C										
Batch (B026288-BL17)										
Prepared: 04/05/2019 Analyzed: 04/08/2019										
Toluene	0.000	1.000	ug/L			90.0	20-100			
Sum PCB	0.100		ug/L	0.200		90.0	10-112			
Sum PCMX	0.100		ug/L	0.200		90.0	30-100			
Sum DDE	0.100		ug/L	0.200		90.0	27-131			
LOB (B026288-BL17)										
Prepared: 04/05/2019 Analyzed: 04/08/2019										
L-F-DDE	0.000	0.050	ug/L	0.100		90.0	23-134			
L-F-DDD	0.000	0.050	ug/L	0.100		60.0	23-134			
L-F-DDT	0.000	0.050	ug/L	0.100		90.0	23-134			
Alpha-BHC	0.000	0.050	ug/L	0.100		60.0	23-134			
beta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	23-134			
Gamma	0.070	0.050	ug/L	0.100		70.0	23-134			
Endosulfan I	0.000	0.050	ug/L	0.100		90.0	23-134			
Endosulfan II	0.000	0.050	ug/L	0.100		60.0	23-134			
Endosulfan sulfate	0.000	0.050	ug/L	0.100		90.0	23-134			
Exrin	0.000	0.050	ug/L	0.100		90.0	23-134			
Exrin analogs	0.000	0.050	ug/L	0.100		90.0	23-134			
gamma-BHC (Lindane)	0.000	0.050	ug/L	0.100		90.0	23-134			
Heptachlor	0.000	0.050	ug/L	0.100		90.0	23-134			
Heptachlor epoxide	0.000	0.050	ug/L	0.100		90.0	23-134			
Methoxychlor	0.000	0.050	ug/L	0.100		90.0	23-134			
Sum PCMX	0.100		ug/L	0.200		90.0	10-112			

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Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B000000 - B000000										
LC8 (B000000-B01) Prepared: 04/02/2019 Analyzed: 04/08/2019										
Sum PCB	0.178		ug/L	0.200		89.0	23-134			
LC8 (B000000-B02) Prepared: 04/02/2019 Analyzed: 04/08/2019										
PCB as Aroclor 1218	0.720	0.200	ug/L	1.00		72.0	40-100			
PCB as Aroclor 1260	0.690	0.200	ug/L	1.00		69.0	40-100			
Sum PCB	0.910		ug/L	0.200		55.0	30-105			
Sum TCAM	0.170		ug/L	0.200		85.0	30-105			
LC8 (B000000-B03) Prepared: 04/05/2019 Analyzed: 04/08/2019										
Triphenyl	1.80	1.00	ug/L	2.00		78.0	23-134			
LC8 (B000000-B04) Prepared: 04/05/2019 Analyzed: 04/08/2019										
Chlordane	1.48	0.200	ug/L	2.00		59.6	23-134			
Methy Spike (B000000-B05) Source: 1800188-01 Prepared: 04/05/2019 Analyzed: 04/08/2019										
1,1-DDE	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
4,4-DDE	0.080	0.050	ug/L	0.100	BLOD	60.0	23-134			
1,1-DDT	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Alpha	0.080	0.050	ug/L	0.100	BLOD	60.0	23-134			
alpha-BHC	0.080	0.050	ug/L	0.100	BLOD	60.0	23-134			
Beta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Gamma-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Delta	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan II	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Ethin	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			

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Date Issued: 4/16/2019 4:59:08PM

Organics Analyzed and PCBs by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0000 - BCD0000										
Main: Spike (BCD0000-001)										
Source: 1804180-01 Prepared: 04/02/2019 Analyzed: 04/08/2019										
Endrin aldehyde	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
gamma-BHC (Lindane)	0.000	0.050	ug/L	0.100	BLOD	50.0	23-134			
Heptachlor	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Heptachlor epoxide	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Methoxychlor	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Sum: TCDD	0.100		ug/L	0.200		50.0	18-112			
Sum: DCB	0.178		ug/L	0.200		89.0	27-131			
Main: Spike (BCD0000-002)										
Source: 1804180-01 Prepared: 04/15/2019 Analyzed: 04/08/2019										
PCB as Aroclor 1218	0.048	0.200	ug/L	1.00	BLOD	94.0	40-120			
PCB as Aroclor 1260	0.090	0.200	ug/L	1.00	BLOD	98.0	40-120			
Sum: DCB	0.112		ug/L	0.200		65.0	30-105			
Sum: TCDD	0.162		ug/L	0.200		76.0	30-105			
Main: Spike Dup (BCD0000-003)										
Source: 1804180-01 Prepared: 04/05/2019 Analyzed: 04/08/2019										
4,4'-DDE	0.051	0.051	ug/L	0.101	BLOD	70.0	23-134	12.3	20	
4,4'-DDE	0.081	0.051	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
4,4'-DDT	0.081	0.051	ug/L	0.101	BLOD	80.0	23-134	1.01	20	
Aroclor	0.081	0.051	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
alpha-BHC	0.081	0.051	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
beta-BHC	0.071	0.051	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
delta-BHC	0.071	0.051	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Dieldrin	0.071	0.051	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Endosulfan I	0.071	0.051	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Endosulfan II	0.081	0.051	ug/L	0.101	BLOD	80.0	23-134	1.01	20	
Endosulfan sulfate	0.071	0.051	ug/L	0.101	BLOD	70.0	23-134	12.3	20	

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Organics/Inorganics and PCBs by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BCD0288 - SW3510C

Matrix Spike Dup (BCD0288-MS01)		Source: 1900190-01			Prepared: 04/02/2019 Analyzed: 04/08/2019					
Endrin	0.071	0.051	ug/L	0.101	BLOD	79.0	25-134	1.01	20	
Endrin aldehyde	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
gamma-BHC (Lindane)	0.061	0.051	ug/L	0.101	BLOD	50.0	25-134	1.01	20	
Heptachlor	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Heptachlor epoxide	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Methoxychlor	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Sum: TCDF	0.101		ug/L	0.202		60.0	18-112			
Sum: DCE	0.162		ug/L	0.202		75.0	27-131			

Matrix Spike Dup (BCD0288-MS02)		Source: 1900190-01			Prepared: 04/05/2019 Analyzed: 04/08/2019					
PCB as Aroclor 1016	1.05	0.202	ug/L	1.01	BLOD	104	40-120	10.1	20	
PCB as Aroclor 1260	1.20	0.202	ug/L	1.01	BLOD	119	40-120	19.4	20	
Sum: DCE	0.192		ug/L	0.202		95.0	30-105			
Sum: TCDF	0.162		ug/L	0.202		60.0	30-105			

Batch BCD0289 - SW3510C

Blank (BCD0289-BLKT)		Prepared: 04/09/2019 Analyzed: 04/12/2019								
PCB as Aroclor 1016	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							
PCB as Aroclor 1242	BLOD	0.200	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: B0002019 - B000100										
Blank (B0002019-BLANK) Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1214	BL00	0.200	ug/L							
Aroclor	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
alpha-BHC	BL00	0.050	ug/L							
gamma-BHC	BL00	0.050	ug/L							
delta-BHC	BL00	0.050	ug/L							
DDTpp	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Exxon	BL00	0.050	ug/L							
Exxon aldehydes	BL00	0.050	ug/L							
gamma-BHC (inert)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							
Toxaphene	BL00	1.00	ug/L							
Sum PCB	0.190		ug/L	0.200		95.0	30-105			
Sum PCBs	0.190		ug/L	0.200		75.0	18-112			
Sum PCBs	0.175		ug/L	0.200		85.0	30-105			
Sum PCB	0.190		ug/L	0.200		90.0	27-131			
LCB (B0002019-B01) Prepared: 04/09/2019 Analyzed: 04/12/2019										
LCB-D00	0.076	0.050	ug/L	0.100		70.0	23-134			

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Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Units	RFD	RFD Limit	Qual
Batch: B0040201 - BWC010C										
LC8 (B0040201-001) Prepared: 04/09/2019 Analyzed: 04/12/2019										
4,4'-DDE	0.070	0.050	ug/L	0.100		70.0	20-124			
4,4'-DDT	0.080	0.050	ug/L	0.100		80.0	20-124			
Aroclor	0.050	0.050	ug/L	0.100		50.0	20-124			
alpha-BHC	0.050	0.050	ug/L	0.100		50.0	20-124			
beta-BHC	0.050	0.050	ug/L	0.100		50.0	20-124			
gamma-BHC	0.050	0.050	ug/L	0.100		50.0	20-124			
Heptachlor	0.050	0.050	ug/L	0.100		50.0	20-124			
Endosulfan I	0.110	0.050	ug/L	0.100		110	20-124			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	20-124			
Endosulfan sulfate	0.050	0.050	ug/L	0.100		50.0	20-124			
Extrin	0.070	0.050	ug/L	0.100		70.0	20-124			
Extrin analogs	0.050	0.050	ug/L	0.100		50.0	20-124			
gamma-BHC (Lindane)	0.050	0.050	ug/L	0.100		50.0	20-124			
Heptachlor	0.050	0.050	ug/L	0.100		50.0	20-124			
Heptachlor epoxide	0.050	0.050	ug/L	0.100		50.0	20-124			
Methoxychlor	0.050	0.050	ug/L	0.100		50.0	20-124			
Sum TCDFs	0.150		ug/L	0.200		50.0	10-112			
Sum DCE	0.100		ug/L	0.200		50.0	20-124			
LC8 (B0040201-002) Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1218	1.13	0.200	ug/L	1.00		113	40-100			L
PCB as Aroclor 1260	0.890	0.200	ug/L	1.00		89.0	40-100			
Sum DCE	0.150		ug/L	0.200		50.0	20-124			
Sum TCDFs	0.150		ug/L	0.200		50.0	20-124			
LC8 (B0040201-003) Prepared: 04/09/2019 Analyzed: 04/12/2019										



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Organohalide Predictions and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: B00002019 - SW00150										
LC8 (B00002019-B03) Prepared: 04/09/2019 Analyzed: 04/12/2019										
Triphenyl	1.45	1.00	ug/L	2.00		68.0	25-134			
Sum PCMH	0.100		ug/L	0.200		50.0	18-112			
Sum PCB	2.140		ug/L	0.200		70.0	27-131			
LC8 (B00002019-B04) Prepared: 04/09/2019 Analyzed: 04/12/2019										
Chlorobenz	1.65	0.200	ug/L	2.00		72.0	25-134			
Sum PCMH	0.140		ug/L	0.200		70.0	18-112			
Sum PCB	0.150		ug/L	0.200		65.0	27-131			
Multi-Spike (B00002019-M01) Source: 1800170101 Prepared: 04/09/2019 Analyzed: 04/12/2019										
1,1'-DDE	0.130	0.050	ug/L	0.100	BL00	100	25-134			
1,1'-DDB	0.130	0.050	ug/L	0.100	BL00	100	25-134			
1,1'-DDT	0.120	0.050	ug/L	0.100	BL00	100	25-134			
Arochl	0.080	0.050	ug/L	0.100	BL00	80.0	25-134			
beta-BHC	0.150	0.050	ug/L	0.100	BL00	100	25-134			
gamma-BHC	0.200	0.050	ug/L	0.100	BL00	200	25-134			W
delta-BHC	0.080	0.050	ug/L	0.100	BL00	80.0	25-134			
Endrin	0.140	0.050	ug/L	0.100	BL00	140	25-134			W
Endosulfan I	0.130	0.050	ug/L	0.100	BL00	130	25-134			
Endosulfan II	0.160	0.050	ug/L	0.100	BL00	160	25-134			W
Endosulfan sulfate	0.160	0.050	ug/L	0.100	BL00	160	25-134			
Exfen	0.170	0.050	ug/L	0.100	BL00	170	25-134			W
Exfen aldehyde	0.110	0.050	ug/L	0.100	BL00	110	25-134			
gamma-BHC (Lindane)	0.080	0.050	ug/L	0.100	BL00	80.0	25-134			
Heptachlor	0.110	0.050	ug/L	0.100	BL00	110	25-134			
Heptachlor epoxide	0.110	0.050	ug/L	0.100	BL00	110	25-134			

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Organics/Inorganics and PCBs by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0289 - BCD0300										
Main: Spike (BCD0289-M01)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
Methoxychlor	0.200	0.050	ug/L	0.100	BLDG	200	25-134			N
Sum PCMH	0.130		ug/L	0.200		65.0	18-112			
Sum OCB	0.190		ug/L	0.200		95.0	27-131			
Main: Spike (BCD0289-M02)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1248	2.31	0.200	ug/L	1.00	BLDG	231	45-100			N
PCB as Aroclor 1260	0.610	0.200	ug/L	1.00	BLDG	61.0	60-120			
Sum OCB	0.185		ug/L	0.200		92.5	38-108			
Sum PCMH	0.155		ug/L	0.200		77.5	54-103			
Main: Spike Dup (BCD0289-M03)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
4'-DDE	0.160	0.050	ug/L	0.100	BLDG	160	25-134	20.7	30	N, P
4'-DDD	0.180	0.050	ug/L	0.100	BLDG	180	25-134	18.4	30	N
4'-DDT	0.150	0.050	ug/L	0.100	BLDG	150	25-134	22.2	30	N, P
Aroclor	0.710	0.200	ug/L	0.700	BLDG	110	25-134	25.0	30	
alpha-BHC	0.115	0.050	ug/L	0.100	BLDG	115	25-134	6.52	30	
beta-BHC	0.250	0.050	ug/L	0.100	BLDG	250	25-134	12.8	30	N
gamma-BHC	0.090	0.050	ug/L	0.100	BLDG	90.0	25-134	11.8	30	
Dieldrin	0.170	0.050	ug/L	0.100	BLDG	170	25-134	18.4	30	N
Endosulfan I	0.150	0.050	ug/L	0.100	BLDG	150	25-134	14.2	30	N
Endosulfan II	0.180	0.050	ug/L	0.100	BLDG	180	25-134	11.8	30	N
Endosulfan sulfate	0.120	0.050	ug/L	0.100	BLDG	120	25-134	19.2	30	
Exxon	0.190	0.050	ug/L	0.100	BLDG	190	25-134	11.1	30	N
Exxon aldehyde	0.130	0.050	ug/L	0.100	BLDG	130	25-134	16.7	30	
gamma-BHC (Lindane)	0.090	0.050	ug/L	0.100	BLDG	90.0	25-134	11.8	30	
Heptachlor	0.120	0.050	ug/L	0.100	BLDG	120	25-134	8.70	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: BCD0289 - M5015C

Matrix Spike Dup (BCD0289-M5015)		Source: 1808176-01		Prepared: 04/09/2019 Analyzed: 04/12/2019						
Heptachlor epoxide	0.130	0.200	ug/L	0.100	BL00	130	20-134	16.7	20	
Methoxychlor	0.190	0.200	ug/L	0.100	BL00	190	20-134	16.5	20	M
Sum: TCMSX	0.190		ug/L	0.200		90.0	18-112			
Sum: DCB	0.190		ug/L	0.200		90.0	20-130			
Matrix Spike Dup (BCD0289-M502)		Source: 1808176-01		Prepared: 04/09/2019 Analyzed: 04/12/2019						
PCB as Aroclor 1018	1.52	0.200	ug/L	1.00	BL00	152	40-120	49.1	20	M, P
PCB as Aroclor 1260	0.755	0.200	ug/L	1.00	BL00	75.5	40-120	21.2	20	P
Sum: DCB	0.195		ug/L	0.200		97.5	30-105			
Sum: TCMSX	0.175		ug/L	0.200		87.5	30-105			



Certificate of Analysis

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Organizations Participates by OCECO - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B000002 - B00001A										
Blank (B000002-BLANK) Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,5-T	BL00	5.00	ug/kg							
2,4,5-TP (blends)	BL00	5.00	ug/kg							
2,4-D	BL00	5.00	ug/kg							
Dioxin	BL00	5.00	ug/kg							
Pentachlorophenol	BL00	5.00	ug/kg							
Sum OCAs (Sum)	0.000		ug/kg	5.11		80.0	31-67			
LCB (B000002-LCB) Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,5-T	0.444	5.00	ug/kg	0.500		80.0	62-125			
2,4,5-TP (blends)	0.500	5.00	ug/kg	0.500		90.0	55-106			
2,4-D	0.011	5.00	ug/kg	0.500		110	57-114			
Dioxin	0.500	5.00	ug/kg	0.500		90.0	53-111			
Pentachlorophenol	0.500	5.00	ug/kg	0.500		100	50-115			
Sum OCAs (Sum)	0.444		ug/kg	5.11		85.0	31-67			
Matrix Spike (B000002-MS1) Source: 190419640 Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,5-T	0.444	5.00	ug/kg	0.500	BL00	80.0	50-130			
2,4,5-TP (blends)	0.444	5.00	ug/kg	0.500	BL00	80.0	55-106			
2,4-D	0.000	5.00	ug/kg	0.500	BL00	90.0	57-114			
Dioxin	0.500	5.00	ug/kg	0.500	BL00	80.0	50-130			nd
Pentachlorophenol	0.500	5.00	ug/kg	0.500	BL00	70.0	50-115			
Sum OCAs (Sum)	1.00		ug/kg	5.11		80.0	31-67			0
Matrix Spike (B000002-MS2) Source: 190419640 Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,5-T	0.444	5.00	ug/kg	0.500	BL00	80.0	50-130			
2,4,5-TP (blends)	0.500	5.00	ug/kg	0.500	BL00	80.0	55-106			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/15/2019 4:59:08PM

Organic/Inorganic Herbicides by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0282 - 200211A										
Matrix Spike (BCD0282-MS1)										
		Source: 1809196-01			Prepared: 04/08/2019 Analyzed: 04/15/2019					
2,4-D	0.598	5.00	ug/kg	0.598	BLOD	100	57-114			
Diuron	0.598	5.00	ug/kg	0.598	BLOD	100	60-130			
Permethrinophenol	0.598	5.00	ug/kg	0.598	BLOD	99.0	50-115			
Sum OCMA (Sum)	1.00		ug/kg	1.17		90.0	31-67			S
Matrix Spike Dup (BCD0282-MS2)										
		Source: 1809196-01			Prepared: 04/08/2019 Analyzed: 04/15/2019					
2,4,5-T	0.444	5.00	ug/kg	0.598	BLOD	80.0	50-130	0.00	20	
2,4,5-TP (Diuron)	0.550	5.00	ug/kg	0.550	BLOD	100	55-106	22.2	20	P
2,4-D	0.811	5.00	ug/kg	0.598	BLOD	110	57-114	20.0	20	
Diuron	0.588	5.00	ug/kg	0.598	BLOD	70.0	60-130	15.4	20	
Permethrinophenol	0.444	5.00	ug/kg	0.598	BLOD	60.0	50-115	13.3	20	
Sum OCMA (Sum)	1.00		ug/kg	1.17		90.0	31-67			S
Matrix Spike Dup (BCD0282-MS3)										
		Source: 1809196-01			Prepared: 04/08/2019 Analyzed: 04/15/2019					
2,4,5-T	0.288	5.00	ug/kg	0.598	BLOD	70.0	50-130	13.3	20	
2,4,5-TP (Diuron)	0.444	5.00	ug/kg	0.550	BLOD	80.0	55-106	11.8	20	
2,4-D	0.811	5.00	ug/kg	0.598	BLOD	110	57-114	9.52	20	
Diuron	0.500	5.00	ug/kg	0.598	BLOD	90.0	60-130	10.6	20	
Permethrinophenol	0.300	5.00	ug/kg	0.598	BLOD	90.0	50-115	0.00	20	
Sum OCMA (Sum)	0.833		ug/kg	1.17		79.8	31-67			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Monitored/analyzed by: GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD0020 - SWM11										
Blank (BCD0020-BLKT)										
Prepared & Analyzed: 04/09/2019										
1,2-Dibromethane (DBM)	BL00	0.010	ug/L							
1,2,3-Trichloropropane	BL00	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL00	0.010	ug/L							
LCA (BCD0020-LCA)										
Prepared & Analyzed: 04/09/2019										
1,2-Dibromethane (DBM)	0.116	0.010	ug/L	0.150		66.2	65-135			
1,2,3-Trichloropropane	0.171	0.010	ug/L	0.250		68.4	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.185	0.010	ug/L	0.250		73.1	65-135			
LCA (sp) (BCD0020-LCA-SP)										
Prepared & Analyzed: 04/09/2019										
1,2-Dibromethane (DBM)	0.106	0.010	ug/L	0.250		90.3	65-135	4.59	20	
1,2,3-Trichloropropane	0.180	0.010	ug/L	0.250		71.9	65-135	4.96	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.164	0.010	ug/L	0.250		73.5	65-135	0.527	20	
Main Spike (BCD0020-MS1)										
Source: 1809176-01 Prepared & Analyzed: 04/09/2019										
1,2-Dibromethane (DBM)	0.174	0.010	ug/L	0.248	BL00	70.2	65-135			
1,2,3-Trichloropropane	0.200	0.010	ug/L	0.248	BL00	81.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.164	0.010	ug/L	0.248	BL00	66.0	65-135			
Main Spike (sp) (BCD0020-MS1-SP)										
Source: 1809176-01 Prepared & Analyzed: 04/09/2019										
1,2-Dibromethane (DBM)	0.172	0.010	ug/L	0.248	BL00	69.9	65-135	1.16	20	
1,2,3-Trichloropropane	0.217	0.010	ug/L	0.248	BL00	87.8	65-135	7.07	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.178	0.010	ug/L	0.248	BL00	71.7	65-135	0.20	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0244 - No Prep Wet Chem										
Blank (BCD0244-BLK1)				Prepared & Analyzed: 04/08/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCD0244-BS1)				Prepared & Analyzed: 04/08/2019						
Sulfide	4.54	1	mg/L	5.00		90.8	90-120			
LCS Dup (BCD0244-BS1)				Prepared & Analyzed: 04/08/2019						
Sulfide	5.14	1	mg/L	5.00		104	80-120	13.4	20	
Matrix Spike (BCD0244-MS1)				Source: 1808175-01 Prepared & Analyzed: 04/08/2019						
Sulfide	5.85	1.00	mg/L	5.00	BLOD	117	75-125			
Matrix Spike Dup (BCD0244-MS1)				Source: 1808175-01 Prepared & Analyzed: 04/08/2019						
Sulfide	4.95	1.00	mg/L	5.00	BLOD	99.0	75-125	16.3	20	
Batch BCD0442 - No Prep Wet Chem										
Blank (BCD0442-BLK1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	BLOD	0.01	mg/L							
LCS (BCD0442-BS1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.24	0.01	mg/L	0.250		95.2	80-120			
LCS Dup (BCD0442-BS1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.23	0.01	mg/L	0.250		92.8	80-120	1.74	20	
Matrix Spike (BCD0442-MS1)				Source: 1808175-01 Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.23	0.01	mg/L	0.250	BLOD	91.1	80-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0462 - No. Dup Wet Chem										
Matrix Spike (BCD0462-W50)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	93.2	80-120			
Matrix Spike Dup (BCD0462-W50-1)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	93.2	80-120	1.03	20	
Matrix Spike Dup (BCD0462-W50-2)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	98.0	80-120	6.03	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/7000 Series Methods			Preparation Method	EPA200.8/81.2	
19C0176-01	50.0 mL / 50.0 mL	SW8018C	BCD0167	SCD0235	AD00027
19C0176-02	50.0 mL / 50.0 mL	SW8018C	BCD0167	SCD0235	AD00027
19C0176-03	50.0 mL / 50.0 mL	SW8018C	BCD0167	SCD0235	AD00027
19C0176-04	50.0 mL / 50.0 mL	SW8018C	BCD0167	SCD0235	AD00027
19C0176-05	50.0 mL / 50.0 mL	SW8018C	BCD0167	SCD0235	AD00027

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/7000 Series Methods			Preparation Method	EPA200.8/81.4	
19C0176-01	50.0 mL / 50.0 mL	SW8020A	BCD0168	SCD0297	AD00029
19C0176-02	50.0 mL / 50.0 mL	SW8020A	BCD0168	SCD0297	AD00029
19C0176-03	50.0 mL / 50.0 mL	SW8020A	BCD0168	SCD0297	AD00029
19C0176-04	50.0 mL / 50.0 mL	SW8020A	BCD0168	SCD0297	AD00029
19C0176-05	50.0 mL / 50.0 mL	SW8020A	BCD0168	SCD0297	AD00029

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method	No Prep Wet Chem	
19C0176-01	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
19C0176-02	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
19C0176-03	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
19C0176-04	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
19C0176-05	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
19C0176-01	6.00 mL / 6.00 mL	SW9218	BCD0440	SCD0471	AD00032
19C0176-02	6.00 mL / 6.00 mL	SW9218	BCD0440	SCD0471	AD00032
19C0176-03	6.00 mL / 6.00 mL	SW9218	BCD0440	SCD0471	AD00032
19C0176-04	6.00 mL / 6.00 mL	SW9218	BCD0440	SCD0471	AD00032

Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
1800178-01	4.00 mL / 15.00 mL	SW69102	SC00462	SC00471	AC00002
Estimable Organic Compounds by GCMS					
			Preparation Method	SW69102	
1800178-01	500 mL / 1.00 mL	SW69102	SC00468	SC00482	AC00102
1800178-02	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-03	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-04	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-05	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-06	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-07	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-08	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-09	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-10	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-11	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-12	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-13	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-14	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-15	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-16	500 mL / 1.00 mL	SW69102	SC00468	SC00480	AC00102
1800178-17	1000 mL / 1.00 mL	SW69102	SC00469	SC00473	AC00002
1800178-18	1000 mL / 1.00 mL	SW69102	SC00469	SC00481	AC00002
Volatiles Organic Compounds by GCMS					
			Preparation Method	SW69102	
1800178-01	5.00 mL / 15.00 mL	SW69102	SC00469	SC00448	AC00114
1800178-02	5.00 mL / 15.00 mL	SW69102	SC00469	SC00448	AC00114
1800178-03	5.00 mL / 15.00 mL	SW69102	SC00469	SC00448	AC00114
1800178-04	5.00 mL / 15.00 mL	SW69102	SC00469	SC00448	AC00114
1800178-05	5.00 mL / 15.00 mL	SW69102	SC00469	SC00448	AC00114

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/8000 Series Methods			Preparation Method	SW1475A	
19C0176-01	20.0 mL / 20.0 mL	SW1475A	BCD0390	SCD0430	AC90008
19C0176-02	20.0 mL / 20.0 mL	SW1475A	BCD0390	SCD0430	AC90008
19C0176-03	20.0 mL / 20.0 mL	SW1475A	BCD0390	SCD0430	AC90008
19C0176-04	20.0 mL / 20.0 mL	SW1475A	BCD0390	SCD0430	AC90008
19C0176-05	20.0 mL / 20.0 mL	SW1475A	BCD0390	SCD0430	AC90008
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by GC/ECD			Preparation Method	SW8011	
19C0176-01	60.7 mL / 2.00 mL	SW8011	BCD0293	SCD0307	AC90001
19C0176-02	60.6 mL / 2.00 mL	SW8011	BCD0293	SCD0307	AC90001
19C0176-03	60.4 mL / 2.00 mL	SW8011	BCD0293	SCD0307	AC90001
19C0176-04	60.8 mL / 2.00 mL	SW8011	BCD0293	SCD0307	AC90001
19C0176-05	60.5 mL / 2.00 mL	SW8011	BCD0293	SCD0307	AC90001
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Herbicides by GC/ECD			Preparation Method	SW8151A	
19C0176-01	900 g / 5.00 mL	SW8151A	BCD0263	SCD0522	AC90027
19C0176-02	900 g / 5.00 mL	SW8151A	BCD0263	SCD0522	AC90027
19C0176-03	900 g / 5.00 mL	SW8151A	BCD0263	SCD0522	AC90027
19C0176-04	900 g / 5.00 mL	SW8151A	BCD0263	SCD0522	AC90027
19C0176-05	900 g / 5.00 mL	SW8151A	BCD0263	SCD0522	AC90027

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certification</u>
EM6110C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM6334A in Non-Potable Water	
Antimony	VELAPNC.WVDEP
Arsenic	VELAPWDEP
Thallium	VELAPWVDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WVDEP
EM8211 in Non-Potable Water	
1,2-Dibromoethane (DBE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-3-chloropropane (DBCP)	VELAPNC
EM8218B in Non-Potable Water	
4,4'-DDD	NC.VELAPWVDEP

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Certified Analyses included in this Report

Analyte	Certification
1,1-DCE	NC,VELAP,WVDEP
1,1-DOT	NC,VELAP,WVDEP
Atrix	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Etoxin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
EMBTGA in Soils	
2,4,5-T	NC,VELAP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certifications
2,4,5-TP (Silox)	NC,VELAP
2,4-D	NC,VELAP
Creosol	NC,VELAP
Pentachlorophenol	NC,VELAP
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,INDEP
1,1,1-Trichloroethane	NC,VELAP,INDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,INDEP
1,1,2-Trichloroethane	NC,VELAP,INDEP
1,1-Dichloroethane	NC,VELAP,INDEP
1,1-Dichloroethylene	NC,VELAP,INDEP
1,1-Dichloropropane	NC,VELAP,INDEP
1,2,3-Trichloropropane	NC,VELAP,INDEP
1,2,4-Trichlorobenzene	NC,VELAP,INDEP
1,2-Dichlorobenzene	NC,VELAP,INDEP
1,3-Dichloroethane	NC,VELAP,INDEP
1,2-Dichloropropane	NC,VELAP,INDEP
1,3-Dichlorobenzene	NC,VELAP,INDEP
1,3-Dichloropropane	NC,VELAP,INDEP
1,4-Dichlorobenzene	NC,VELAP,INDEP
2,2-Dichloropropane	NC,VELAP,INDEP
2-Butanone (MIBK)	NC,VELAP,INDEP
2-Hexanone (MIBK)	NC,VELAP,INDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,INDEP
Acetone	NC,VELAP,INDEP
Acetonitrile	NC,VELAP,INDEP
Acrolein	NC,VELAP,INDEP
Acrylonitrile	NC,VELAP,INDEP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, NELAP, WYDEP
Benzene	NC, NELAP, WYDEP
Bromochloromethane	NC, NELAP, WYDEP
Bromodichloromethane	NC, NELAP, WYDEP
Bromobenzene	NC, NELAP, WYDEP
Bromomethane	NC, NELAP, WYDEP
Carbon disulfide	NC, NELAP, WYDEP
Carbon tetrachloride	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chloroethane	NC, NELAP, WYDEP
Chloroform	NC, NELAP, WYDEP
Chloromethane	NC, NELAP, WYDEP
Chloroacetylene	NC, NELAP, WYDEP
cis-1,2-Dichloroethylene	NC, NELAP, WYDEP
cis-1,3-Dichloropropene	NC, NELAP, WYDEP
Dibromochloromethane	NC, NELAP, WYDEP
Dibromomethane	NC, NELAP, WYDEP
Dichlorodifluoromethane	NC, NELAP, WYDEP
Ethyl methacrylate	NC, NELAP, WYDEP
Ethylbenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Iodomethane	NC, NELAP, WYDEP
Isobutyl Alcohol	NC, NELAP, WYDEP
m,p-Xylenes	NC, NELAP, WYDEP
Methacrylonitrile	NC, NELAP, WYDEP
Methyl methacrylate	NC, NELAP, WYDEP
Methylene chloride	NC, NELAP, WYDEP
o-Xylene	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Certified Analyses included in this Report

Analyte	Certification
Propene	NC.VELAP.WVDEP
Ethene	NC.VELAP.WVDEP
Tetrachloroethylene (PCE)	NC.VELAP.WVDEP
Toluene	NC.VELAP.WVDEP
trans-1,2-Dichloroethylene	NC.VELAP.WVDEP
trans-1,3-Dichloropropene	NC.VELAP.WVDEP
trans-1,4-Dichloro-2-butene	NC.VELAP.WVDEP
Trichloroethylene	NC.VELAP.WVDEP
Trichlorofluoromethane	NC.VELAP.WVDEP
Vinyl acetate	NC.VELAP.WVDEP
Vinyl chloride	NC.VELAP.WVDEP
Xylenes, Total	NC.VELAP.WVDEP
EMPTIES in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC.VELAP.WVDEP
1,3,5-Trinitrobenzene	NC.VELAP.WVDEP
1,3-Dinitrobenzene	NC.VELAP.WVDEP
1,4-Naphthoquinone	NC.VELAP.WVDEP
1-Naphthylamine	NC.VELAP.WVDEP
1,1,1,1-Tetrachloroethane	NC.VELAP.WVDEP
2,4,5-Trichlorophenol	NC.VELAP.WVDEP
2,4,6-Trichlorophenol	NC.VELAP.WVDEP
2,4-Dichlorophenol	NC.VELAP.WVDEP
2,4-Dimethylphenol	NC.VELAP.WVDEP
2,4-Dinitrophenol	NC.VELAP.WVDEP
2,4-Dinitrotoluene	NC.VELAP.WVDEP
2,6-Dichlorophenol	NC.VELAP.WVDEP
2,6-Dinitrotoluene	NC.VELAP.WVDEP
2-Acetylaminofluorene	NC.VELAP.WVDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Certified Analyses included in this Report

Analyte	Certification
1-Chloronaphthalene	NC, VELAP, WYDEP
1-Chlorophenol	NC, VELAP, WYDEP
2-Methylnaphthalene	NC, VELAP, WYDEP
2-Naphthylamine	NC, VELAP, WYDEP
2-Nitroaniline	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
3,3'-Dichlorobenzidine	NC, VELAP, WYDEP
3,3'-Dimethylbenzidine	NC, VELAP, WYDEP
3-Methylcholanthrene	NC, VELAP, WYDEP
3-Nitroaniline	NC, VELAP, WYDEP
4,8-Di-ortho-2-naphthol	NC, VELAP, WYDEP
4-Aminobiphenyl	NC, VELAP, WYDEP
4-Bromophenyl phenyl ether	NC, VELAP, WYDEP
4-Chloroaniline	NC, VELAP, WYDEP
4-Chlorophenyl phenyl ether	NC, VELAP, WYDEP
4-Nitroaniline	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro-o-toluidine	NC, VELAP, WYDEP
7,7,8-Trichlorodibenzo (a,h) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benzo (a) anthracene	NC, VELAP, WYDEP
Benzo (a) pyrene	NC, VELAP, WYDEP
Benzo (b) fluoranthene	NC, VELAP, WYDEP
Benzo (g,h,i) perylene	NC, VELAP, WYDEP
Benzo (k) fluoranthene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Certified Analyses included in this Report

Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
1,2-Dichloro (1-chloropropane)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Diethyl phthalate	NC, NELAP, WYDEP
Dimethyl maleate	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dioxin	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Certified Analyses included in this Report

Analyte	Certification
Indene (1,2,3-ind) pyrene	NC,VELAP,WYDEP
Isodrin	NC,VELAP,WYDEP
Isophrone	NC,VELAP,WYDEP
Isosafrole	NC,VELAP,WYDEP
Ketone	NC,VELAP,WYDEP
m-p-Cresol	NC,VELAP,WYDEP
Methoxyflene	NC,VELAP,WYDEP
Methyl methanesulfonate	NC,VELAP,WYDEP
Methyl parathion	NC,VELAP,WYDEP
Naphthalene	NC,VELAP,WYDEP
Nitrobenzene	NC,VELAP,WYDEP
n-Nitrosodibutylamine	NC,VELAP,WYDEP
n-Nitrosodimethylamine	NC,VELAP,WYDEP
n-Nitroso-n-butylamine	NC,VELAP,WYDEP
n-Nitroso-n-propylamine	NC,VELAP,WYDEP
n-Nitrosodiphenylamine	NC,VELAP,WYDEP
n-Nitrosomethylcetylamine	NC,VELAP,WYDEP
n-Nitrosopiperidine	NC,VELAP,WYDEP
n-Nitrosopyrrolidine	NC,VELAP,WYDEP
o,o-Diethyl o-2-pyridyl phosphorothioate	NC,VELAP,WYDEP
o,o-Diethyl o-2-pyridyl phosphorothioate	NC,VELAP,WYDEP
o-m-p-Cresol	VELAP,WYDEP
o-Cresol	NC,VELAP,WYDEP
o-Toluidine	NC,VELAP,WYDEP
p-(Dimethylamino) azobenzene	NC,VELAP,WYDEP
p-Chloro-m-cresol	NC,VELAP,WYDEP
Pentachlorobenzene	NC,VELAP,WYDEP
Pentachloronitrobenzene (quinazone)	NC,VELAP,WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Certified Analyses included in this Report

Analyte	Certification
Phenolate	NC VELAP WYDEP
Phenanthrene	NC VELAP WYDEP
Phenol	NC VELAP WYDEP
Phenols	NC VELAP WYDEP
p-Phenylenediamine	NC VELAP WYDEP
Pyrene	NC VELAP WYDEP
Sulfide	NC VELAP WYDEP

SW9012B in Non-Potable Water

Cyanide VELAP

SW9215 in Non-Potable Water

Sulfide VELAP

Code	Description	Cert Number	Expires
MDDOE	Maryland DE Drinking Water	341	12/31/2019
VELAP Certificate #4337	NELAC-Virginia Certificate #10074	46002-1	06/14/2019

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Qualifiers and Definitions

- C Continuing calibration verification response for this analyte is outside specifications.
- Cl Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
- E Estimated concentration, outside calibration range
- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- S Surrogate recovery was outside acceptance criteria

- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLDD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

- PCBs, Total Total PCBs are defined as the sum of detected Analytes 1016, 1021, 1022, 1048, 1054, 1060, 1062, and 1068.



1941 REYNET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 355-8295 PHONE
 (804)355-8297 FAX

Chain of Custody
 Form # C0201
 Rev. 18
 Effective: Feb 14, 2014

CHAIN OF CUSTODY

PAGE 1 of 1

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Culpaper Environmental Services	PROJECT NAME/Quote #: LYCBLP Compliance Wells
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpaper)
ADDRESS: 1604 Gandy Lane, Richmond, VA 23220	INVOICE ADDRESS: 118 WESTDALE DRIVE, SUITE 101, COLLEGE, VA 23211	PROJECT NUMBER: Job No. 21810100001
PHONE #: (804) 355-8295	INVOICE PHONE #: (848) 727-3668	P.O. #:
FAX #: (804) 355-4282	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS ID. #:

SAMPLER NAME (PRINT): *M. Adams* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Days

Media Codes: SW-Surface Water/Brown Water CW-Ground Water SW-Drinking Water S-Solid/Sludge O-Open Air A-Air WH-Wipe OI-Other

CLIENT SAMPLE I.D.	Media	Composite Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Media (See Codes)	Number of Containers	Volume (Liters)	ANALYSIS / (PRESERVATIVE)						COMMENTS
1) BL-10	SW	X			5/15/19	07:00		E	10	10							
2) BL-20	SW	X				07:00			10	10							
3) BL-30	SW	X				07:00			10	10							
4) BL-4	SW	X				07:00			10	10							
5) BL-70	SW	X			7/15/19	07:00			10	10							No Sol Culpa
6)																	
7)																	
8)																	
9)																	
10)																	

RELINQUISHED: <i>[Signature]</i> DATE / TIME: 5/15/19	RECEIVED: <i>[Signature]</i> DATE / TIME: 5/15/19	GC Date Package	LAB USE ONLY	COOLER TEMP: <u> 2 </u> °C
RELINQUISHED: DATE / TIME:	RECEIVED: DATE / TIME:	10000	LaBella Associates, 19D0176	
RELINQUISHED: DATE / TIME:	RECEIVED: DATE / TIME:	10000	Laurel Valley Compliance Wells	
RELINQUISHED: DATE / TIME:	RECEIVED: DATE / TIME:	10000	Recd: 04/03/2019 Dm: 04/17/2019	
RELINQUISHED: DATE / TIME:	RECEIVED: DATE / TIME:	10000		



Case # 1101171

Sample Preservation Log

Date Performed: 4/15/11

Sample Preservation Log
 Form # 7001
 Rev # 02
 Effective 06/15, 2004
 Page 1 of 1

Analyst Performing Check: SE

Sample ID	Location	Metals		Organics		Buffers		Ammonia		TKN		Phos. Tot		COD-MOD		BOD		Feculence (per 100ml)		SVOC (per 100ml)		COT		Residual Chlorine	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
01020	C																		✓		✓				
01020	M				✓																				
01020	G	✓																							
01020	S				✓																				
01020	T				✓																				
01020	V						✓																		
01020	V						✓																		
01020	W	✓																							
01020	X	✓																							
01020	C																		✓		✓				
01020	D				✓																				
01020	E						✓																		
01020	G	✓																							
01020	C																		✓		✓				

HCl ID: _____ HNO₃ ID: _____ Total preserved samples: _____ Analyzed volume: _____
 H₂SO₄ ID: _____ NaOH ID: _____ * pH must be adjusted between 8.2 - 8.7
 Buffer Salt ID: _____
 HCl ID: _____ H₂SO₄ ID: _____ 1M NaOH ID: _____ 5M NaOH: _____



Sample Preservation Log

Sample Preservation Log
 Form F1301
 Rev 4/11
 Effective Nov 15, 2019
 Page 1 of 1

Lab # 10001710

Date Performed: 4/13/19

Analyst Performing Check: SE

Sample ID	Matrix	Cyanide	Sulfide	Ammonia	FISH	Phos. Tot	NO ₂ -NO ₃	DVO			Pesticide		BYOC		CPE		Pesticide (USEPA)		pH as Received	Final pH (if adjust.)		
								pH as Received	Final pH (if adjust.)	+2 Other	Res.Cl as Received	Res.Cl P/A (if adjust.)	Res.Cl as Received	Res.Cl P/A (if adjust.)	pH as Received	Adjusted final pH	+2 Other	pH as Received			Other	
																						Pres	Absent	Pres	Absent
03		/																				
03			/																			
03		/																				
04										/		/										
04		/																				
04			/																			
04		/																				
05										/		/										
05		/																				
05		/																				

NaOH ID: _____ HNO₃ ID: _____ Cr(VI) preserved - date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂CO₃ ID: _____ pH must be adjusted between 9.3 - 9.7
 Buffer Soft ID: _____
 HCL ID: _____ Na₂SO₄ ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

*Cr(VI) only certified (DREL/DAE and not T-CRVI) as an approved analyte under 40CFR136 for water quality.

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:59:08PM

Sample Conditions Checklist

Sample Received at	4:07P
Was your sampler trained?	Yes
Were tubing from used? If so, were they cleaned first?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottles/labels agree with custody papers?	Yes
Is the temperature listed on representative samples within acceptable limits as required on law, and correctly listed?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analytes requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA821, EPA824, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

Refer to WO 1800177 for trip blank data. SE 4/3/19 15:58

Analysis Detectable Report

Date Issued:

Client Name:

Client Site ID:

Submitted To:

Laboratory Sample ID:

Client Sample ID:

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
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There are no reportable results for target analytes in this report.

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1841 Baymead Road # Richmond, Virginia 23217 • Tel: (804) 298-8200 Fax: (804) 298-8207

Certificate of Analysis

Final Report

Laboratory Order ID 1909177

Client Name: LaBella Associates, D.P.C.

1604 Ownby Lane

Richmond, VA 23220

Submitted To: Jake White

Date Received: April 3, 2019 12:52

Date Issued: April 16, 2019 16:54

Project Number: 2181900.00.01

Purchase Order:

Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)

Enclosed are the results of analyses for samples received by the laboratory on 04/03/2019 12:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mahra

Lab Director/Quality Assurance Manager

End Notes

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are shown as at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Culpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Equipment Blank	19D0177-01	Ground Water	04/03/2019 09:35	04/03/2019 13:52
Field Blank	19D0177-02	Ground Water	04/03/2019 09:40	04/03/2019 13:52
Trip Blank	19D0177-03	Ground Water	03/28/2019 15:05	04/03/2019 13:52

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 80001000 Series Methods												
Silver	01	7440-22-4	8000100	04/04/2019 17:30	04/05/2019 17:49	BL00		5.0	10.0	1	ug/L	SHL
Antimony	01	7440-36-2	800020A	04/04/2019 17:30	04/05/2019 12:30	BL00		1.0	5.0	1	ug/L	BCV
Barium	01	7440-39-3	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		5.0	10.0	1	ug/L	SHL
Beryllium	01	7440-41-7	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		3.0	4.0	1	ug/L	SHL
Cadmium	01	7440-43-9	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	01	7440-48-4	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		3.0	4.0	1	ug/L	SHL
Chromium	01	7440-47-3	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		4.0	10.0	1	ug/L	SHL
Copper	01	7440-50-8	8000100	04/04/2019 17:30	04/05/2019 17:49	BL00		3.0	10.0	1	ug/L	SHL
Mercury	01	7439-97-8	807470A	04/11/2019 08:30	04/11/2019 14:08	BL00		0.20	0.20	1	ug/L	SHL
Nickel	01	7440-02-0	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		2.0	10.0	1	ug/L	SHL
Lead	01	7439-92-1	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	01	7440-38-0	800020A	04/04/2019 17:30	04/05/2019 12:30	BL00		1.00	5.00	1	ug/L	BCV
Selenium	01	7782-49-2	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		40.0	50.0	1	ug/L	SHL
Tin	01	7440-31-0	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		20.0	20.0	1	ug/L	SHL
Thallium	01	7440-28-4	800020A	04/04/2019 17:30	04/05/2019 12:30	BL00		1.00	3.00	1	ug/L	BCV
Vanadium	01	7440-03-2	8000100	04/04/2019 17:30	04/05/2019 17:49	BL00		5.0	10.0	1	ug/L	SHL
Zinc	01	7440-06-4	8000100	04/04/2019 17:30	04/05/2019 17:50	BL00		10.0	10.0	1	ug/L	SHL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	630-20-4	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.40	0.40	1	ug/L	KCB
1,1,1-Trifluoroethane	01	71-26-6	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.80	1.00	1	ug/L	KCB
1,1,2,2-Tetrafluoroethane	01	78-34-6	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.30	0.40	1	ug/L	KCB
1,1,2-Trifluoroethane	01	78-00-2	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.50	1.00	1	ug/L	KCB
1,1-Dichloroethane	01	75-34-3	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.80	1.00	1	ug/L	KCB
1,1-Dichloroethylene	01	75-35-4	808200B	04/09/2019 11:58	04/09/2019 11:58	BL00		0.70	1.00	1	ug/L	KCB

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1-Dichloroethane	01	583-85-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	01	120-62-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.50	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	01	95-50-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloroethane	01	107-66-2	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.70	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	78-67-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	94-73-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	142-28-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
1,1,1-Trichloroethane	01	98-99-7	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MPL)	01	101-78-6	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	106-10-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	01	75-05-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		6.00	10.0	1	ug/L	KCS
Acrolein	01	107-03-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		6.00	10.0	1	ug/L	KCS
Arylamines	01	107-13-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	01	107-05-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.80	1.00	1	ug/L	KCS
Benzene	01	71-43-2	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	79-27-4	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	0.80	1	ug/L	KCS
Bromofluoromethane	01	75-26-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		1.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1906177-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	01	75-09-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.99	1.00	1	ug/L	KCS
Chloroacene	01	129-99-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.60	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	106-68-2	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.30	1.00	1	ug/L	KCS
Chloroacetylene	01	129-99-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.35	0.50	1	ug/L	KCS
Chloroacetonitrile	01	74-96-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.95	1.00	1	ug/L	KCS
1,1-Difluoroethane	01	67-03-2	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.70	5.00	1	ug/L	KCS
1,1,1-Trifluoroethane	01	100-41-4	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Fluorochloroethane	01	67-66-3	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.60	0.60	1	ug/L	KCS
Isobutylene	01	74-96-4	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	75-83-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		25.0	40.0	1	ug/L	KCS
m-xylene	01	13265-02-1	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	01	126-98-7	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		1.50	1.50	1	ug/L	KCS
Methyl methacrylate	01	95-62-8	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		3.00	4.00	1	ug/L	KCS
p-xylene	01	95-47-6	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	01	127-12-0	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	01	100-42-0	SW82000	04/09/2019 11:58	04/09/2019 11:58	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Tetrachloroethylene (PCE)	01	127-18-4	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	106-98-3	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10021-03-8	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	119-27-9	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	76-01-6	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.40	1.00	1	ug/L	KCS
Trichloroethylene	01	75-69-4	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	105-65-4	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-1	8260.000	04/09/2019 11:56	04/09/2019 11:56	BLOD		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-04 (Sum)	01	93.2 %	79-120	04/09/2019 11:56	04/09/2019 11:56							
Sum: 4-bromofluorobenzene (Sum)	01	97.2 %	79-120	04/09/2019 11:56	04/09/2019 11:56							
Sum: Chlorofluorobenzene (Sum)	01	107 %	79-130	04/09/2019 11:56	04/09/2019 11:56							
Sum: Toluene-01 (Sum)	01	96.8 %	79-130	04/09/2019 11:56	04/09/2019 11:56							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1906177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenic Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.98	10.3	1	ug/L	JHV
1,2,5-Trichlorobenzene	01	95-93-4	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.93	5.15	1	ug/L	JHV
1,3-Dichlorobenzene	01	95-95-0	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	2.58	1	ug/L	JHV
1,4-Naphthoquinone	01	135-15-4	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.98	10.3	1	ug/L	JHV
1-Naphthylene	01	124-22-7	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.93	10.3	1	ug/L	JHV
1,2,4,5-Tetrahydroxybenzene	01	94-90-3	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
2,4,6-Trichlorophenol	01	95-93-4	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
2,4,6-Trichlorophenol	01	95-93-2	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
1,4-Dimethoxybenzene	01	120-83-2	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
2,4-Dimethylphenol	01	105-67-8	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD	C	0.62	0.62	1	ug/L	JHV
2,4-Dinitrophenol	01	81-26-6	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		8.25	51.5	1	ug/L	JHV
2,4-Dinitrotoluene	01	121-14-0	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	10.3	1	ug/L	JHV
2,6-Dinitrophenol	01	87-62-0	SM82700	04/08/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
2,6-Dinitrotoluene	01	906-20-3	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.12	10.3	1	ug/L	JHV
2-Acetylnaphthalene	01	5346-3	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	2.58	1	ug/L	JHV
2-Chloronaphthalene	01	91-58-7	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.64	10.3	1	ug/L	JHV
2-Chlorophenol	01	95-57-0	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.61	10.3	1	ug/L	JHV
2-Methylnaphthalene	01	91-07-6	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
2-Naphthylene	01	91-58-6	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
2-Nitrobenzene	01	95-79-4	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.98	29.8	1	ug/L	JHV
2-Nitrophenol	01	95-75-0	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
2,7-Dinitrobenzidine	01	81-94-1	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.12	10.3	1	ug/L	JHV
2,7-Dinitrobenzidine	01	109-83-7	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	2.58	1	ug/L	JHV
2-Methyltoluene	01	95-49-5	SM82700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.93	10.3	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Equipment Blank**

Laboratory Sample ID: **1806177-01**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
1-Nitrobenzene	01	99-06-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
1,3-Dioxol-2-methylphenol	01	534-52-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		8.21	81.8	1	ug/L	JHV
4-Aminodiphenyl	01	60-67-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
4-Bromophenyl phenyl ether	01	101-85-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.81	38.1	1	ug/L	JHV
4-Chlorobenzene	01	106-47-8	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
4-Chlorophenyl phenyl ether	01	1006-11-9	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.81	38.1	1	ug/L	JHV
4-Fluorobenzene	01	100-01-6	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
4-Nitrophenol	01	100-02-7	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
5-Nitro-1-naphthol	01	89-85-8	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
1,12-Dimethylbenz (a) anthracene	01	87-87-8	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD	C	2.06	20.6	1	ug/L	JHV
Acenaphthene	01	85-32-9	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.12	41.2	1	ug/L	JHV
Acenaphthylene	01	105-96-6	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.12	41.2	1	ug/L	JHV
Acenaphthone	01	98-89-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
Anthracene	01	130-13-7	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		5.15	51.5	1	ug/L	JHV
Benzo (a) anthracene	01	56-56-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		0.65	6.5	1	ug/L	JHV
Benzo (a) pyrene	01	50-32-6	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		0.10	1.0	1	ug/L	JHV
Benzo (b) fluoranthene	01	205-99-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		4.12	41.2	1	ug/L	JHV
Benzo (k) fluorene	01	181-24-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	20.6	1	ug/L	JHV
Benzo (k) fluoranthene	01	207-08-9	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		8.19	81.9	1	ug/L	JHV
Benzo (p) acenaphthene	01	100-81-4	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.83	18.3	1	ug/L	JHV
ben (2-Chloromethyl) methane	01	111-81-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.81	38.1	1	ug/L	JHV
ben (2-Chloromethyl) ether	01	111-44-4	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.81	38.1	1	ug/L	JHV
2,2'-Oxide (1-chlorophenyl)	01	106-86-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	30.9	1	ug/L	JHV
ben (2-Ethylhexyl) phosphate	01	917-81-7	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD	C	2.06	20.6	1	ug/L	JHV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
Butyl benzyl phthalate	01	65-68-7	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD	C	7.20	10.3	1	ug/L	JHV
Chlorobenzene	01	91-08-6	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD	C	2.88	2.88	1	ug/L	JHV
Chrysene	01	218-01-8	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		4.10	10.3	1	ug/L	JHV
Dibenz	01	200-35-4	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.88	2.88	1	ug/L	JHV
Diethyl (p,p') dithionene	01	62-70-3	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.96	10.3	1	ug/L	JHV
Dibenzofuran	01	133-84-8	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.08	5.15	1	ug/L	JHV
Diethyl phthalate	01	84-66-2	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		3.09	10.3	1	ug/L	JHV
Dinitrobenzene	01	60-51-5	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.58	2.58	1	ug/L	JHV
Di-n-octyl phthalate	01	135-11-3	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		3.61	10.3	1	ug/L	JHV
Di-n-octyl phthalate	01	84-78-2	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		4.12	10.3	1	ug/L	JHV
Di-n-octyl phthalate	01	117-84-0	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD	C	8.25	10.3	1	ug/L	JHV
Dibenzyltoluene	01	127-35-4	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.08	10.3	1	ug/L	JHV
Dieldrin	01	208-34-4	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD	C	2.58	2.58	1	ug/L	JHV
Ethyl methanesulfonate	01	60-50-0	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		1.03	20.6	1	ug/L	JHV
Ethyl acetate	01	74-36-3	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.58	2.58	1	ug/L	JHV
Fluoranthene	01	53-69-7	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD	C	2.58	2.58	1	ug/L	JHV
Fluorene	01	206-44-0	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		5.45	10.3	1	ug/L	JHV
Fluorene	01	66-73-7	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		4.10	10.3	1	ug/L	JHV
Hexachlorobenzene	01	118-74-1	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		0.08	0.08	1	ug/L	JHV
Hexachlorocyclopentadiene	01	87-68-3	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		4.84	10.3	1	ug/L	JHV
Hexachlorocyclopentadiene	01	77-47-4	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		1.03	10.3	1	ug/L	JHV
Hexachlorobiphenyl	01	67-73-1	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		3.81	10.3	1	ug/L	JHV
Hexachloroprene	01	1688-71-7	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		2.08	2.58	1	ug/L	JHV
Indene (1,2,3-cd) pyrene	01	183-38-1	SM8270D	04/04/2019 09:30	04/08/2019 20:08	BLOD		3.08	10.3	1	ug/L	JHV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzene-like Organic Compounds by GCMS												
Acetone	01	67-63-0	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
Acetophenone	01	78-66-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	10.3	1	ug/L	JHV
Acrylonitrile	01	126-68-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	10.3	1	ug/L	JHV
Alkane	01	143-00-0	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD	C	2.58	2.58	1	ug/L	JHV
Amyl Alcohol	01	64999-04-0	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
Methylcyclohexane	01	81-80-9	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
Methyl methanesulfonate	01	65-27-3	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		1.03	10.3	1	ug/L	JHV
Methyl paraffin	01	256-00-0	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	2.58	1	ug/L	JHV
Naphthalene	01	81-20-3	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.61	10.3	1	ug/L	JHV
Nonane	01	68-98-3	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
n-Nonadecylamine	01	65-18-5	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	2.58	1	ug/L	JHV
n-Nonadecylsulfonamide	01	62-75-5	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
n-Nonadecyl-n-butylamine	01	929-16-3	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	10.3	1	ug/L	JHV
n-Nonadecylpropylamine	01	621-64-7	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.61	10.3	1	ug/L	JHV
n-Nonadecylsulfonamide	01	84-36-6	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
n-Nonadecylmethylamine	01	10905-95-8	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	2.58	1	ug/L	JHV
n-Nonacosamine	01	106-75-4	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	10.3	1	ug/L	JHV
n-Nonacosamine	01	830-05-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	2.58	1	ug/L	JHV
n,n-Dimethyl phosphorothioate	01	126-68-1	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	10.3	1	ug/L	JHV
n,n-Dimethyl n-2-propenyl phosphorothioate	01	267-87-3	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.06	10.3	1	ug/L	JHV
Amyl Alcohol	01	1319-77-2	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		3.09	10.3	1	ug/L	JHV
n-Octane	01	94-48-7	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		8.25	10.3	1	ug/L	JHV
n-Undecane	01	95-83-4	8260.700	04/04/2019 09:30	04/08/2019 20:05	BLOD		2.58	2.58	1	ug/L	JHV

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] toluene	01	88-11-7	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00	C	1.00	2.58	1	ug/L	JHV
p-Chloro-m-xylene	01	88-96-7	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		3.88	10.3	1	ug/L	JHV
Pentachlorobenzene	01	608-03-0	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	10.3	1	ug/L	JHV
Pentachloroantibenzene (quintane)	01	82-09-8	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		1.00	1.00	1	ug/L	JHV
Phenanthrene	01	92-44-2	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		1.00	10.0	1	ug/L	JHV
Fluorene	01	89-01-8	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		5.00	10.3	1	ug/L	JHV
Fluorant	01	106-05-2	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	10.3	1	ug/L	JHV
Fluoranthene	01	206-02-2	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	2.58	1	ug/L	JHV
p-Fluorobenzonitrile	01	108-90-2	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	10.3	1	ug/L	JHV
Fluorene	01	89-01-8	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	10.3	1	ug/L	JHV
Pyrene	01	179-09-0	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00	C	7.00	10.3	1	ug/L	JHV
Sulfone	01	84-56-7	8162700	04/04/2019 09:30	04/08/2019 20:05	BL00		2.00	2.58	1	ug/L	JHV
Surr: 1,4-Dibromobenzene (Surr)	01	36.3 %	10-88	04/04/2019 09:30	04/08/2019 20:05							
Surr: 2-Fluorobiphenyl (Surr)	01	84.8 %	9-87	04/04/2019 09:30	04/08/2019 20:05							
Surr: 2-Fluorophenol (Surr)	01	41.8 %	10-67	04/04/2019 09:30	04/08/2019 20:05							
Surr: Nitrobenzene-d5 (Surr)	01	78.8 %	10-66.0	04/04/2019 09:30	04/08/2019 20:05							
Surr: Fluorobenzene (Surr)	01	28.8 %	5-33	04/04/2019 09:30	04/08/2019 20:05							
Surr: p-Terphenyl-d14 (Surr)	01	57.6 %	27-133	04/04/2019 09:30	04/08/2019 20:05							

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1809177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/MS												
PCB as Aroclor 1216	01	12074-11-2	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.026	0.213	1	ug/L	LBH
PCB as Aroclor 1221	01	11104-26-2	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.218	0.213	1	ug/L	LBH
PCB as Aroclor 1232	01	11141-14-5	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.016	0.213	1	ug/L	LBH
PCB as Aroclor 1240	01	83405-21-8	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.044	0.213	1	ug/L	LBH
PCB as Aroclor 1248	01	12072-29-4	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.091	0.213	1	ug/L	LBH
PCB as Aroclor 1254	01	11097-69-1	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.037	0.213	1	ug/L	LBH
PCB as Aroclor 1260	01	11098-82-5	EPA8082A	04/05/2019 13:28	04/08/2019 18:14	BL00		0.036	0.213	1	ug/L	LBH
Sum PCB	01		50.0 % 30-100	04/05/2019 13:28	04/08/2019 18:14							
Sum PCMX	01		50.0 % 30-100	04/05/2019 13:28	04/08/2019 18:14							
4,4'-DDE	01	72-64-8	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
4,4'-DDD	01	72-65-9	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00	C	0.008	0.003	1	ug/L	LBH
4,4'-DDT	01	50-29-3	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
Aldrin	01	509-00-2	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
alpha-BHC	01	512-64-8	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
gamma-BHC	01	212-65-7	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.021	0.003	1	ug/L	LBH
Chlordane	01	57-14-6	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.213	0.213	1	ug/L	LBH
dieldrin	01	512-65-9	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
Dieldrin	01	60-27-1	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
Endosulfan I	01	505-68-4	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.002	0.003	1	ug/L	LBH
Endosulfan II	01	50213-65-8	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.002	0.003	1	ug/L	LBH
Endosulfan sulfate	01	1031-37-8	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.008	0.003	1	ug/L	LBH
Deslin	01	73-20-8	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00	C	0.008	0.003	1	ug/L	LBH
Endrin aldehyde	01	7421-82-4	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.005	0.003	1	ug/L	LBH
gamma-BHC (Lindane)	01	58-89-9	EPA8081B	04/05/2019 13:28	04/08/2019 18:14	BL00		0.008	0.003	1	ug/L	LBH

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	01	76-44-8	8060B18	0405/2019 13:28	0406/2019 18:14	BL00		0.005	0.005	1	ug/L	LBH
Heptachlor epoxide	01	1024-57-8	8060B18	0405/2019 13:28	0406/2019 18:14	BL00		0.005	0.005	1	ug/L	LBH
Methoxychlor	01	72-43-9	8060B18	0405/2019 13:28	0406/2019 18:14	BL00	C	0.005	0.005	1	ug/L	LBH
Toxaphene	01	8001-35-2	8060B18	0405/2019 13:28	0406/2019 18:14	BL00		0.213	1.06	1	ug/L	LBH
Sum: PCMP	01	50.0 %	18-112	0405/2019 13:28	0406/2019 18:14							
Sum: DCB	01	50.0 %	27-131	0405/2019 13:28	0406/2019 18:14							

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Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	95-79-5	SW8151A	04/08/2019 15:02	04/15/2019 16:32	BL00		0.010	0.00	1	ug/kg	SKB
2,4,5-TP (Sives)	01	95-79-1	SW8151A	04/08/2019 15:02	04/15/2019 16:32	BL00		0.010	0.00	1	ug/kg	SKB
2,4-D	01	94-75-7	SW8151A	04/08/2019 15:02	04/15/2019 16:32	BL00		0.010	0.00	1	ug/kg	SKB
Simazine	01	88-86-7	SW8151A	04/08/2019 15:02	04/15/2019 16:32	BL00		0.010	0.00	1	ug/kg	SKB
Pentachlorophenol	01	87-86-0	SW8151A	04/08/2019 15:02	04/15/2019 16:32	BL00		0.010	0.00	1	ug/kg	SKB
Sum: DCAA (Sum)	01	80.0 %	31-87	04/08/2019 15:02	04/15/2019 16:32							

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Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Equipment Blank

Laboratory Sample ID: 1909177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-Extractables by GC/MS												
1,2-Dibromobenzene (DBB)	01	106-93-4	826011	04/09/2019 09:57	04/09/2019 20:18	BLGD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	01	96-18-4	826011	04/09/2019 09:57	04/09/2019 20:18	BLGD		0.008	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	826011	04/09/2019 09:57	04/09/2019 20:18	BLGD		0.008	0.010	1	ug/L	LBH

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Client Sample ID: Equipment Blank

Laboratory Sample ID: 1806177-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	01	57-12-6	SW9012B	04/11/2019 16:40	04/12/2019 12:07	BL00		0.01	0.01	1	mg/L	JMW
Sulfide	01	15496-24-8	SW9015	04/08/2019 17:22	04/08/2019 17:23	BL00		0.80	1.00	1	mg/L	TMB

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Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1909177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 80001000 Series Methods												
Silver	02	7440-22-4	8000100	04/04/2019 17:30	04/05/2019 17:01	BL00		5.0	10.0	1	ug/L	SHL
Arsenic	02	7440-38-2	800020A	04/04/2019 17:30	04/05/2019 12:33	BL00		1.0	5.0	1	ug/L	BCV
Barium	02	7440-39-3	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		5.0	10.0	1	ug/L	SHL
Beryllium	02	7440-41-7	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		3.0	4.0	1	ug/L	SHL
Cadmium	02	7440-43-9	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		2.0	4.0	1	ug/L	SHL
Cobalt	02	7440-48-4	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		3.0	4.0	1	ug/L	SHL
Chromium	02	7440-47-3	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		4.0	10.0	1	ug/L	SHL
Copper	02	7440-50-8	8000100	04/04/2019 17:30	04/05/2019 17:01	BL00		3.0	10.0	1	ug/L	SHL
Mercury	02	7439-97-6	807470A	04/11/2019 08:30	04/11/2019 16:11	BL00		0.20	0.20	1	ug/L	SHL
Nickel	02	7440-02-0	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		2.0	10.0	1	ug/L	SHL
Lead	02	7439-92-1	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		5.0	10.0	1	ug/L	SHL
Antimony	02	7440-36-0	800020A	04/04/2019 17:30	04/05/2019 12:33	BL00		1.00	5.00	1	ug/L	BCV
Strontium	02	7782-43-2	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		40.0	50.0	1	ug/L	SHL
Tin	02	7440-31-0	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		20.0	20.0	1	ug/L	SHL
Thallium	02	7440-36-9	800020A	04/04/2019 17:30	04/05/2019 12:33	BL00		1.00	3.00	1	ug/L	BCV
Vanadium	02	7440-43-1	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		5.0	10.0	1	ug/L	SHL
Zinc	02	7440-66-0	8000100	04/04/2019 17:30	04/05/2019 17:02	BL00		10.0	10.0	1	ug/L	SHL

Certificate of Analysis

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Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1906177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	630-20-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-68-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	78-34-9	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	78-36-4	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropane	02	583-08-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichloropropane	02	120-82-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	95-90-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloroethane	02	107-06-3	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	75-27-5	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	541-73-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	142-28-9	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	02	594-20-7	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MIBK)	02	70-93-5	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	02	98-17-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		3.00	3.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		1.80	6.00	1	ug/L	KCS
Acetone	02	67-64-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	02	75-05-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		8.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-02-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	02	107-05-1	SW82000	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.80	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1809177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	02	71-43-2	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	02	75-28-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-99-9	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.60	1.00	1	ug/L	KCS
Carbon disulfide	02	75-18-0	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	1.00	1	ug/L	KCS
Chloroacetylene	02	100-00-7	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	02	75-09-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-68-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.95	1.00	1	ug/L	KCS
Chloroacetylene	02	100-00-7	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethene	02	100-38-2	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10041-01-0	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	02	13448-1	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	02	74-96-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
Dibromofluoromethane	02	75-71-6	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methoxybenzene	02	97-63-2	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.70	3.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.40	1.00	1	ug/L	KCS
Heptachlorobenzene	02	67-68-3	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.60	0.80	1	ug/L	KCS
Iodomethane	02	74-88-4	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	02	78-83-1	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		36.0	60.0	1	ug/L	KCS
m,p-Xylene	02	179601-23	SW826008	04/09/2019 11:34	04/09/2019 11:34	BLOD		0.80	2.00	1	ug/L	KCS

Certificate of Analysis

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Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1806177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	02	126-98-7	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	02	96-63-6	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.70	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.40	1.00	1	ug/L	KCS
Propene	02	107-12-0	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		7.00	40.0	1	ug/L	KCS
Styrene	02	100-42-0	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	02	127-18-4	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethene	02	106-66-5	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.80	1.00	1	ug/L	KCS
trans-1,2-Dichloropropane	02	10061-02-8	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethene	02	75-01-6	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.40	1.00	1	ug/L	KCS
Trinitrofluorene	02	75-09-4	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		3.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75014	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		0.50	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW82000	04/09/2019 11:34	04/09/2019 11:34	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d (Sum)	02	95.7 %	75-120	04/09/2019 11:34	04/09/2019 11:34							
Sum: 4-Bromofluorobenzene (Sum)	02	98.7 %	75-120	04/09/2019 11:34	04/09/2019 11:34							
Sum: Dibromofluoromethane (Sum)	02	97.8 %	75-130	04/09/2019 11:34	04/09/2019 11:34							
Sum: Toluene-d6 (Sum)	02	97.4 %	75-130	04/09/2019 11:34	04/09/2019 11:34							

Certificate of Analysis

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Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1906177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GC/MS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
1,2,5-Trichlorobenzene	02	95-93-4	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.88	9.30	1	ug/L	JHV
1,3-Dichlorobenzene	02	95-95-9	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
1,4-Naphthoquinone	02	120-15-4	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
1-Naphthylene	02	124-22-7	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.88	10.6	1	ug/L	JHV
1,2,4,5-Tetrachlorophenol	02	94-90-3	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
2,4,6-Trichlorophenol	02	95-93-4	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
2,4,6-Trichlorophenol	02	95-95-2	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
1,4-Dimethylbenzene	03	120-83-2	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
1,4-Dimethylphenol	02	105-67-8	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	0.53	0.53	1	ug/L	JHV
2,4-Dinitrophenol	02	51-28-5	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		6.51	53.2	1	ug/L	JHV
2,4-Dinitrotoluene	02	121-14-0	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	10.6	1	ug/L	JHV
2,6-Dinitrophenol	02	87-63-9	8190.710	04/08/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
2,6-Dinitrotoluene	02	906-20-3	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.26	10.6	1	ug/L	JHV
2-Acetylnaphthalene	02	75-96-3	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
2-Chloronaphthalene	02	91-58-7	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.79	10.6	1	ug/L	JHV
2-Chlorophenol	02	95-57-9	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.72	10.6	1	ug/L	JHV
2-Methylnaphthalene	02	91-07-6	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
2-Naphthylene	02	91-59-6	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
2-Nitrobenzene	02	95-79-4	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	21.3	1	ug/L	JHV
2-Nitrophenol	02	95-75-9	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.19	10.6	1	ug/L	JHV
2,7-Dinitrobenzidine	02	81-94-1	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.26	10.6	1	ug/L	JHV
2,7-Dinitrobenzidine	02	119-83-7	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
2-Methyltoluene	02	94-49-5	8190.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.88	10.6	1	ug/L	JHV

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1809177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1-Nitrobenzene	02	99-08-2	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
1,3-Dioxol-2-methylphenol	02	934-03-1	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		8.81	88.1	1	ug/L	JHV
4-Aminotoluene	02	93-07-1	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
4-Bromophenyl phenyl ether	02	101-85-3	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		3.73	37.3	1	ug/L	JHV
4-Chlorotoluene	02	106-47-8	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
4-Chlorophenyl phenyl ether	02	1006-13-9	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		3.72	37.2	1	ug/L	JHV
4-Fluorotoluene	02	100-01-8	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
4-Nitrotoluene	02	100-02-7	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
5-Nitrotoluene	02	99-08-8	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
1,1-Dimethylbenzene (o-xylene)	02	81-87-8	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD	C	2.13	21.3	1	ug/L	JHV
Acenaphthene	02	81-32-9	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		4.26	42.6	1	ug/L	JHV
Acenaphthylene	02	108-90-6	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		4.26	42.6	1	ug/L	JHV
Acenaphthone	02	95-89-2	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
Anthracene	02	130-13-7	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		5.32	53.2	1	ug/L	JHV
Benz[a]anthracene	02	94-01-1	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		0.65	6.5	1	ug/L	JHV
Benz[a]pyrene	02	50-32-6	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		0.11	1.1	1	ug/L	JHV
Benz[b]fluoranthene	02	200-084-0	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		4.26	42.6	1	ug/L	JHV
Benz[e]pyrene	02	181-24-2	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		2.13	21.3	1	ug/L	JHV
Benz[k]fluoranthene	02	207-083-9	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		8.38	83.8	1	ug/L	JHV
Benzyl alcohol	02	100-81-4	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		1.88	18.8	1	ug/L	JHV
1a (2-Chloroethyl) naphthalene	02	111-41-1	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		3.73	37.3	1	ug/L	JHV
1a (2-Chloroethyl) ether	02	111-44-4	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		3.73	37.3	1	ug/L	JHV
1,2-Dioxin (1-chlorodioxin)	02	106-86-1	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD		3.19	31.9	1	ug/L	JHV
1a (2-Ethylhexyl) phthalate	02	117-41-7	8260.710	04/04/2019 09:30	04/08/2019 20:38	BLOD	C	2.88	28.8	1	ug/L	JHV

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1806177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	02	65-66-7	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	7.43	10.6	1	ug/L	JHV
Chlorobenzene	02	91-08-6	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	2.66	2.66	1	ug/L	JHV
Chrysene	02	218-01-8	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.26	10.6	1	ug/L	JHV
Diethyl	02	2003-36-4	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
Diethyl (p,p') dithionene	02	62-70-3	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.93	10.6	1	ug/L	JHV
Dibenzofuran	02	133-84-8	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	6.32	1	ug/L	JHV
Diethyl phthalate	02	84-66-2	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
Dinitrobenzene	02	69-61-5	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
Di-n-octyl phthalate	02	129-11-3	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.72	10.6	1	ug/L	JHV
Di-n-octyl phthalate	02	88-74-2	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.26	10.6	1	ug/L	JHV
Di-n-octyl phthalate	02	117-84-0	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	6.51	10.6	1	ug/L	JHV
Dibenzyltoluene	02	127-35-4	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
Diethylbenzene	02	206-34-4	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	2.66	2.66	1	ug/L	JHV
Ethyl methanesulfonate	02	62-55-0	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	21.3	1	ug/L	JHV
Ethyl acetate	02	76-14-5	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
Fluoranthene	02	53-69-7	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	2.66	2.66	1	ug/L	JHV
Fluorene	02	206-44-0	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		5.32	10.6	1	ug/L	JHV
Fluorene	02	84-73-7	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.26	10.6	1	ug/L	JHV
Hexachlorobenzene	02	118-74-1	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		0.66	0.66	1	ug/L	JHV
Hexachlorocyclopentadiene	02	87-68-3	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		4.79	10.6	1	ug/L	JHV
Hexachlorocyclopentadiene	02	77-47-4	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
Hexachlorobutadiene	02	67-73-1	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.73	10.6	1	ug/L	JHV
Hexachloropropene	02	1655-71-7	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	2.66	1	ug/L	JHV
Indene (1,2,3-cd) pyrene	02	183-38-1	8260.710	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1909177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenesulfonate Organic Compounds by GCMS												
Acetic	02	60-02-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.86	10.6	1	ug/L	JHV
Acetophenone	02	78-06-1	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	10.6	1	ug/L	JHV
Acetone	02	135-66-1	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
Acrylonitrile	02	143-00-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD	C	2.13	2.88	1	ug/L	JHV
propyl-Cresol	02	64669-04-8	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.86	10.6	1	ug/L	JHV
Methacrylonitrile	02	91-08-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
Methyl methanesulfonate	02	66-27-3	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		1.06	10.6	1	ug/L	JHV
Methyl parathion	02	298-05-2	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	2.66	1	ug/L	JHV
Naphthalene	02	81-20-3	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.72	10.6	1	ug/L	JHV
Nitrobenzene	02	98-96-3	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
n-Pentadecylbenzene	02	65-16-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.66	2.66	1	ug/L	JHV
n-Pentadecylmethylaniline	02	62-75-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
n-Pentadecyl-n-butylamine	02	924-18-3	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
n-Pentadecylpropylamine	02	627-64-7	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.72	10.6	1	ug/L	JHV
n-Pentadecylstyrylamine	02	84-36-6	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
n-Pentadecylsulfonamide	02	10395-95-8	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	2.66	1	ug/L	JHV
n-Pentacosamine	02	166-75-4	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
n-Pentacosamine	02	930-05-2	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	2.88	1	ug/L	JHV
n,n-Diethyl phosphorothioate	02	126-68-1	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
n,n-Diethyl n-2-propenyl phosphorothioate	02	297-67-2	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	10.6	1	ug/L	JHV
propyl-Cresol	02	1315-77-2	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		3.19	10.6	1	ug/L	JHV
n-Cresol	02	95-49-7	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		8.81	10.6	1	ug/L	JHV
n-Toluene	02	95-53-4	8260.700	04/04/2019 09:30	04/08/2019 20:36	BLOD		2.13	2.88	1	ug/L	JHV

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Field Blank**

Laboratory Sample ID: **1809177-02**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Benzenoid Organic Compounds by GCMS												
p-Dimethylamino] xanthene	02	86-11-7	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00	C	1.06	2.06	1	ug/L	JHV
p-Chloro-m-xcel	02	64-66-7	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.59	10.6	1	ug/L	JHV
Pentachlorobenzene	02	608-03-8	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.53	10.6	1	ug/L	JHV
Pentachloroantimonybenzene (quintobenz)	02	82-68-8	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		1.06	1.06	1	ug/L	JHV
Phenanthrene	02	92-44-2	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		1.06	10.6	1	ug/L	JHV
Fluorenone	02	89-01-8	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		5.31	10.6	1	ug/L	JHV
Fluorol	02	106-05-1	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.60	10.6	1	ug/L	JHV
Fluorol	02	256-02-2	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.53	2.56	1	ug/L	JHV
p-Fluorophenanthrene	02	108-90-2	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.53	10.6	1	ug/L	JHV
Fluorene	02	2396-84-8	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.53	10.6	1	ug/L	JHV
Pyrene	02	179-09-0	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00	C	7.40	10.6	1	ug/L	JHV
Sulfone	02	74-36-7	8192700	04/04/2019 09:30	04/08/2019 20:36	BL00		2.53	2.56	1	ug/L	JHV
Surr: 2,4,6-Trinitrophenol (Surr)	02	35-4 %	10-28	04/04/2019 09:30	04/08/2019 20:36							
Surr: 2-Fluorobiphenyl (Surr)	02	49.0 %	9-87	04/04/2019 09:30	04/08/2019 20:36							
Surr: 2-Fluorophenol (Surr)	02	30.8 %	10-22	04/04/2019 09:30	04/08/2019 20:36							
Surr: Nitrobenzene-d5 (Surr)	02	55.4 %	10-66.8	04/04/2019 09:30	04/08/2019 20:36							
Surr: Fluorene-d10 (Surr)	02	19.8 %	9-33	04/04/2019 09:30	04/08/2019 20:36							
Surr: p-Terphenyl-d14 (Surr)	02	53.8 %	27-133	04/04/2019 09:30	04/08/2019 20:36							

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Client Sample ID: Field Blank

Laboratory Sample ID: 1909177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1218	02	12874-11-2	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.026	0.200	1	ug/L	SKJ
PCB as Aroclor 1221	02	11104-26-2	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.200	0.200	1	ug/L	SKJ
PCB as Aroclor 1232	02	11145-16-5	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.075	0.200	1	ug/L	SKJ
PCB as Aroclor 1240	02	83485-21-9	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.041	0.200	1	ug/L	SKJ
PCB as Aroclor 1248	02	72072-29-9	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.049	0.200	1	ug/L	SKJ
PCB as Aroclor 1254	02	11097-66-7	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.038	0.200	1	ug/L	SKJ
PCB as Aroclor 1260	02	11096-82-0	SW8060A	04/09/2019 10:10	04/12/2019 11:59	BL00		0.034	0.200	1	ug/L	SKJ
Sum PCB	02	100 %	30-105	04/09/2019 10:10	04/12/2019 11:59							
Sum PCBs	02	99.9 %	30-105	04/09/2019 10:10	04/12/2019 11:59							
4,4'-DDE	02	72-04-8	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
4,4'-DDD	02	72-85-8	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
4,4'-DDT	02	50-29-1	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Aldrin	02	509-00-2	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
gamma-BHC	02	512-64-2	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
delta-BHC	02	212-88-7	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.020	0.050	1	ug/L	SKJ
Chlordane	02	57-14-9	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.200	0.200	1	ug/L	SKJ
dieldrin	02	512-65-9	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Dactin	02	60-57-1	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan I	02	505-66-4	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan II	02	50213-65-9	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Endosulfan sulfate	02	1051-07-8	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Desin	02	73-20-8	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Desin allylate	02	7427-82-4	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
gamma-BHC (Lindane)	02	58-88-9	SW8061B	04/09/2019 10:10	04/12/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1806177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Heptachlor	02	76-44-8	SW8261B	04/09/2019 10:10	04/10/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Heptachlor epoxide	02	1024-57-8	SW8261B	04/09/2019 10:10	04/10/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Methoxychlor	02	72-43-9	SW8261B	04/09/2019 10:10	04/10/2019 11:59	BL00		0.005	0.050	1	ug/L	SKJ
Toxaphene	02	8001-35-2	SW8261B	04/09/2019 10:10	04/10/2019 11:59	BL00		0.005	0.05	1	ug/L	SKJ
Sum: PCMP	02	90.0 %	12-112	04/09/2019 10:10	04/10/2019 11:59							
Sum: DGB	02	90.0 %	27-131	04/09/2019 10:10	04/10/2019 11:59							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/15/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1906177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	95-79-5	EPA8151A	04/08/2019 15:02	04/15/2019 16:55	BL00		0.010	5.00	1	ug/kg	SKB
2,4,5-TP (Sives)	02	95-79-1	EPA8151A	04/08/2019 15:02	04/15/2019 16:55	BL00		0.010	5.00	1	ug/kg	SKB
2,4-D	02	94-75-7	EPA8151A	04/08/2019 15:02	04/15/2019 16:55	BL00		0.010	5.00	1	ug/kg	SKB
Simazine	02	88-86-7	EPA8151A	04/08/2019 15:02	04/15/2019 16:55	BL00		0.010	5.00	1	ug/kg	SKB
Pentachlorophenol	02	87-86-0	EPA8151A	04/08/2019 15:02	04/15/2019 16:55	BL00		0.010	5.00	1	ug/kg	SKB
Sum: DCAA (Sum)	02	85.0 %	31-87	04/08/2019 15:02	04/15/2019 16:55							

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Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Field Blank

Laboratory Sample ID: 1909177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromoethane (EDB)	02	106-93-4	826011	04/09/2019 09:57	04/09/2019 20:28	BLND		0.008	0.010	1	ug/L	LBW
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2019 09:57	04/09/2019 20:28	BLND		0.008	0.010	1	ug/L	LBW
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	826011	04/09/2019 09:57	04/09/2019 20:28	BLND		0.008	0.010	1	ug/L	LBW

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Client Sample ID: Field Blank

Laboratory Sample ID: 1809177-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-6	SW9012B	04/11/2019 16:40	04/12/2019 12:19	BL00		0.01	0.01	1	mg/L	JW
Sulfide	02	5496-24-8	SW9015	04/08/2019 17:22	04/08/2019 17:23	BL00		0.80	1.00	1	mg/L	TMB

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Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1909177-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-69-6	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.30	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-9	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	79-39-4	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		0.70	1.00	1	ug/L	KCS
1,1-Dichloroethene	02	803-90-8	SW82002	04/09/2019 10:40	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
1,2,4-Trichloropropane	01	120-82-1	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.50	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	03	95-90-1	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS
1,3-Dichloroethane	03	107-06-3	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-27-5	SW82002	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	541-73-1	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	142-29-9	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	03	694-70-7	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.80	2.00	1	ug/L	KCS
2-Butanone (MIBK)	03	79-59-3	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		3.00	3.00	1	ug/L	KCS
2-Pentanone (MIBK)	03	98-119-8	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		3.20	3.00	1	ug/L	KCS
4 Methyl-2-pentanone (MIBK)	02	108-10-1	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		1.80	3.00	1	ug/L	KCS
Acetone	03	67-64-1	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		7.00	10.0	1	ug/L	KCS
Acetonitrile	03	75-05-8	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		8.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-02-8	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		8.50	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW82000	04/09/2019 10:40	04/09/2019 10:49	BL00		1.70	3.00	1	ug/L	KCS
Allyl chloride	03	107-25-1	SW82008	04/09/2019 10:40	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS

Certificate of Analysis

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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1809177-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Waste Organic Compounds by GCMS												
Benzene	01	71-43-2	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
Bromochloromethane	02	74-97-5	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	1.00	1	ug/L	KCB
Bromodichloromethane	03	75-27-4	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	0.50	1	ug/L	KCB
Bromofuran	04	75-28-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
Bromomethane	05	74-83-9	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	1.00	1	ug/L	KCB
Carbon disulfide	06	75-18-0	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		1.00	10.0	1	ug/L	KCB
Carbon tetrachloride	07	96-23-9	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	1.00	1	ug/L	KCB
Chlorobenzene	08	108-90-7	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
Chloroethane	09	75-09-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.70	1.00	1	ug/L	KCB
Chloroform	10	67-68-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	0.50	1	ug/L	KCB
Chloromethane	11	74-87-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	1.00	1	ug/L	KCB
Chloroacrolein	12	126-95-6	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	0.50	1	ug/L	KCB
cis-1,2-Dichloroethylene	13	156-58-2	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
cis-1,3-Dichloropropene	14	10041-41-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.30	1.00	1	ug/L	KCB
Dibromochloromethane	15	13449-1	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.30	0.50	1	ug/L	KCB
Dibromomethane	16	74-96-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
Dibromodichloromethane	17	75-71-0	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.30	1.00	1	ug/L	KCB
Ethyl methacrylate	18	97-63-2	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.70	0.00	1	ug/L	KCB
Ethylbenzene	19	100-41-4	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.40	1.00	1	ug/L	KCB
Heptachlorobenzene	20	67-68-3	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	0.50	1	ug/L	KCB
Iodomethane	21	74-88-4	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		1.70	10.0	1	ug/L	KCB
Isobutyl Alcohol	22	76-82-1	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		25.0	40.0	1	ug/L	KCB
m,p-Xylene	23	170601-23-	SW826008	04/09/2019 10:40	04/09/2019 10:40	BL00		0.50	2.00	1	ug/L	KCB

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Client Sample ID: **Trip Blank**

Laboratory Sample ID: **1806177-03**

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methacrylonitrile	01	126-98-7	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		1.00	1.00	1	ug/L	KCS
Methyl methacrylate	02	99-93-8	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.70	2.00	1	ug/L	KCS
Methylvinyl ketone	03	75-09-2	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-8	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
Propylene	06	107-12-9	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		7.00	90.0	1	ug/L	KCS
Styrene	07	100-42-0	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
Tetrahydrofuran (THF)	08	127-18-4	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
Toluene	09	108-88-3	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethene	09	180-50-5	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS
trans-1,2-Dichloropropene	09	10061-02-8	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-57-8	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		1.70	4.00	1	ug/L	KCS
Trichloroethene	09	75-01-8	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.40	1.00	1	ug/L	KCS
Trinitrofluorethane	09	75-09-4	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	109-05-4	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		3.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		0.50	0.50	1	ug/L	KCS
Xylenes, Total	09	1330-20-7	SW82000	04/09/2019 10:49	04/09/2019 10:49	BL00		1.00	3.00	1	ug/L	KCS
Sum: 1,2-Dichloroethene-d (Sum)	09	107.3%	75-120	04/09/2019 10:49	04/09/2019 10:49							
Sum: 4-Bromofluorobenzene (Sum)	09	94.8%	75-120	04/09/2019 10:49	04/09/2019 10:49							
Sum: Dibromofluorobenzene (Sum)	09	98.8%	75-120	04/09/2019 10:49	04/09/2019 10:49							
Sum: Toluene-d8 (Sum)	09	99.3%	75-120	04/09/2019 10:49	04/09/2019 10:49							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1909177-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-constituents by GC/MS												
1,2-Dibromobenzene (DOB)	01	106-93-4	826011	04/09/2019 09:57	04/09/2019 20:54	BLD		0.008	0.010	1	ug/L	LBH
1,2,3-Trichloropropane	02	96-18-4	826011	04/09/2019 09:57	04/09/2019 20:54	BLD		0.008	0.010	1	ug/L	LBH
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	826011	04/09/2019 09:57	04/09/2019 20:54	BLD		0.008	0.010	1	ug/L	LBH



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Method (Title) by EPA 8000-7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limits	RPD	RPD Limit	Qual
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Batch BCD0169 - EPA200.2/R2.8

Blank (BCD0169-BLK1)

Prepared: 04/04/2019 Analyzed: 04/05/2019

Barium	BLOD	10.0	ug/L
Beryllium	BLOD	4.0	ug/L
Cadmium	BLOD	4.0	ug/L
Chromium	BLOD	10.0	ug/L
Cobalt	BLOD	4.0	ug/L
Copper	BLOD	10.0	ug/L
Lead	BLOD	10.0	ug/L
Nickel	BLOD	10.0	ug/L
Selenium	BLOD	50.0	ug/L
Silver	BLOD	10.0	ug/L
Tin	BLOD	20.0	ug/L
Vanadium	BLOD	10.0	ug/L
Zinc	BLOD	10.0	ug/L

LCS (BCD0169-B51)

Prepared: 04/04/2019 Analyzed: 04/05/2019

Barium	498	10.0	ug/L	500	99.6	80-120
Beryllium	513	4.0	ug/L	500	103	80-120
Cadmium	508	4.0	ug/L	500	102	80-120
Chromium	501	10.0	ug/L	500	100	80-120
Cobalt	502	4.0	ug/L	500	100	80-120
Copper	477	10.0	ug/L	500	95.4	80-120
Lead	506	10.0	ug/L	500	101	80-120
Nickel	498.8	10.0	ug/L	500	99.8	80-120
Selenium	553	50.0	ug/L	500	111	80-120
Silver	105	10.0	ug/L	100	105	80-120



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Method (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limit	RPD	RPD Limit	Qual
Batch: BCD0118 - 02A208-200-L										
LC3 (BCD0118-001)										
Prepared: 04/04/2018 Analyzed: 04/05/2018										
Tin	94.4	20.0	ug/L				80-120			
Vanadium	404	10.0	ug/L	500		90.7	80-120			
Zinc	509	10.0	ug/L	500		102	80-120			
LC3 Dup (BCD0118-002)										
Prepared: 04/04/2018 Analyzed: 04/05/2018										
Boron	265	10.0	ug/L	500		99.3	80-120	0.337	20	
Beryllium	507	4.0	ug/L	500		101	80-120	1.09	20	
Calcium	551	4.0	ug/L	500		100	80-120	0.961	20	
Chromium	99	10.0	ug/L	500		99.2	80-120	0.953	20	
Cobalt	496	4.0	ug/L	500		99.6	80-120	0.916	20	
Copper	473	10.0	ug/L	500		94.7	80-120	0.805	20	
Lead	555	10.0	ug/L	500		101	80-120	0.230	20	
Mercury	99.3	10.0	ug/L	500		98.7	80-120	1.12	20	
Selenium	554	50.0	ug/L	500		111	80-120	0.0536	20	
Silver	104	10.0	ug/L	100		104	80-120	0.972	20	E
Tin	94.4	20.0	ug/L				80-120	1.01	20	
Vanadium	440	10.0	ug/L	500		87.9	80-120	3.12	20	
Zinc	500	10.0	ug/L	500		101	80-120	1.42	20	
Matrix Spike (BCD0118-MS2)										
Source: 1805/18-14 Prepared: 04/04/2018 Analyzed: 04/05/2018										
Boron	57.7	10.0	ug/L	500	26.8	96.1	75-125			
Beryllium	496	4.0	ug/L	500	BLDD	99.1	75-125			
Calcium	486	4.0	ug/L	500	BLDD	97.0	75-125			
Chromium	495	10.0	ug/L	500	BLDD	99.8	75-125			
Cobalt	481	4.0	ug/L	500	BLDD	98.1	75-125			
Copper	475	10.0	ug/L	500	BLDD	94.6	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Matrix (Total): by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD0168 - EPA306.8.RL.4

Matrix Spike (BCD0168-MS0)	Source: 1805188-14			Prepared: 0404/2019	Analyzed: 0405/2019					
Lead	484	10.0	ug/L	500	BLOD	96.8	75-125			
Nickel	481.2	10.0	ug/L	500	BLOD	96.2	75-125			
Selenium	102	50.0	ug/L	500	BLOD	102	75-125			
Silver	100	10.0	ug/L	100	BLOD	100	75-125			B
Tin	61.5	20.0	ug/L		BLOD		75-125			
Vanadium	481	10.0	ug/L	500	BLOD	96.2	75-125			
Zinc	484	10.0	ug/L	500	BLOD	96.8	75-125			

Matrix Spike Dup (BCD0168-MS02)	Source: 1900198-14			Prepared: 0404/2019	Analyzed: 0405/2019					
Barium	527	10.0	ug/L	500	36.8	98.1	75-125	1.95	20	
Beryllium	503	4.0	ug/L	500	BLOD	101	75-125	1.48	20	
Cadmium	492	4.0	ug/L	500	BLOD	98.4	75-125	1.42	20	
Chromium	492	10.0	ug/L	500	BLOD	98.5	75-125	1.58	20	
Cobalt	487	4.0	ug/L	500	BLOD	97.4	75-125	1.37	20	
Copper	480	10.0	ug/L	500	BLOD	96.0	75-125	1.54	20	
Lead	491	10.0	ug/L	500	BLOD	98.2	75-125	1.37	20	
Nickel	487.4	10.0	ug/L	500	BLOD	97.5	75-125	1.26	20	
Selenium	118	50.0	ug/L	500	BLOD	104	75-125	1.31	20	
Silver	102	10.0	ug/L	100	BLOD	102	75-125	1.88	20	B
Tin	62.4	20.0	ug/L		BLOD		75-125	1.14	20	
Vanadium	489	10.0	ug/L	500	BLOD	97.8	75-125	1.69	20	
Zinc	490	10.0	ug/L	500	BLOD	98.1	75-125	1.31	20	

Batch: BCD0171 - EPA306.8.RL.4

Blank (BCD0171-BLKT)				Prepared: 0404/2019	Analyzed: 0405/2019					
Antimony	BLOD	5.00	ug/L							



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Method (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch BCD0171 - EPA206.8 BSL										
Blank (BCD0171-BLK1)										
				Prepared: 04/04/2019 Analyzed: 04/09/2019						
Arsenic	BL00	5.0	ug/L							
Thallium	BL00	2.00	ug/L							
LCS (BCD0171-BL1)										
				Prepared: 04/04/2019 Analyzed: 04/09/2019						
Antimony	53.5	5.00	ug/L	50.0		107	80-120			
Arsenic	54	5.0	ug/L	50.0		107	80-120			
Thallium	52.2	2.00	ug/L	50.0		104	80-120			
LCS (BCD0171-B52)										
				Prepared: 04/04/2019 Analyzed: 04/10/2019						
Antimony	53.1	5.00	ug/L	50.0		108	80-120			
Arsenic	52	5.0	ug/L	50.0		104	80-120			
LCS Dup (BCD0171-B5D1)										
				Prepared: 04/04/2019 Analyzed: 04/09/2019						
Antimony	52.9	5.00	ug/L	50.0		106	80-120	1.04	20	
Arsenic	53	5.0	ug/L	50.0		108	80-120	1.77	20	
Thallium	51.1	2.00	ug/L	50.0		102	80-120	2.09	20	
LCS Dup (BCD0171-B5D2)										
				Prepared: 04/04/2019 Analyzed: 04/10/2019						
Antimony	53.0	5.00	ug/L	50.0		106	80-120	0.106	20	
Arsenic	52	5.0	ug/L	50.0		103	80-120	0.289	20	
Matrix Spike (BCD0171-MB1)										
				Source: 1904199-01 Prepared: 04/04/2019 Analyzed: 04/09/2019						
Antimony	59.3	5.00	ug/L	50.0	BL00	107	75-125			
Arsenic	57	5.0	ug/L	50.0	4.9	104	75-125			
Thallium	53.7	2.00	ug/L	50.0	4.26	94.7	75-125			
Matrix Spike (BCD0171-MB2)										
				Source: 1904199-14 Prepared: 04/04/2019 Analyzed: 04/09/2019						
Antimony	52.2	5.00	ug/L	50.0	BL00	104	75-125			
Arsenic	53	5.0	ug/L	50.0	BL00	108	75-125			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Method (Total): by EPA 80007000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0171 - EPA306.B.RL.4										
Matrix Spike (BCD0171-MS0)										
Source: 1900198-14 Prepared: 04/04/2019 Analyzed: 04/09/2019										
Thallium	57.5	2.00	ug/L	50.0	BLOD	105	75-125			
Matrix Spike Dup (BCD0171-MS0-1)										
Source: 1900198-47 Prepared: 04/04/2019 Analyzed: 04/09/2019										
Arsenic	54.0	5.00	ug/L	50.0	BLOD	108	75-125	1.25	20	
Arsenic	57	5.0	ug/L	50.0	4.8	105	75-125	0.518	20	
Thallium	54.6	2.00	ug/L	50.0	4.36	100	75-125	1.56	20	
Matrix Spike Dup (BCD0171-MS02)										
Source: 1900198-14 Prepared: 04/04/2019 Analyzed: 04/09/2019										
Arsenic	52.8	5.00	ug/L	50.0	BLOD	105	75-125	0.828	20	
Arsenic	53	5.0	ug/L	50.0	BLOD	108	75-125	0.518	20	
Thallium	52.3	2.00	ug/L	50.0	BLOD	105	75-125	0.277	20	
Batch BCD0390 - SW7470A										
Blank (BCD0390-BLK1)										
Prepared & Analyzed: 04/11/2019										
Mercury	BLOD	0.20	ug/L							
LCS (BCD0390-B51)										
Prepared & Analyzed: 04/11/2019										
Mercury	2.34	0.20	ug/L	2.50		93.7	80-120			
LCS Dup (BCD0390-B501)										
Prepared & Analyzed: 04/11/2019										
Mercury	2.46	0.20	ug/L	2.50		98.4	80-120	4.86	20	
Matrix Spike (BCD0390-MS1)										
Source: 1900198-47 Prepared & Analyzed: 04/11/2019										
Mercury	1.94	0.20	ug/L	2.50	BLOD	81.7	80-120			NS
Matrix Spike (BCD0390-MS2)										
Source: 1900198-47 Prepared & Analyzed: 04/11/2019										
Mercury	2.05	0.20	ug/L	2.50	BLOD	81.2	80-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Method (Total): EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: BCD0000 - SW1425A

Main: Spike Dup (BCD0000-0000)		Source: 1904190-01		Prepared & Analyzed: 04/11/2019						
Mercury	1.45	0.20	ug/L	2.00	BLDG	89.2	90-100	2.00	20	SI
Main: Spike Dup (BCD0000-0000)		Source: 1904190-01		Prepared & Analyzed: 04/11/2019						
Mercury	2.25	0.20	ug/L	2.00	BLDG	89.3	90-100	2.00	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatiles Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NAREC Limit	RPD	RPD Limit	Qual
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Batch: B000138 - B000138

Blank (B000138-BLANK) Prepared & Analyzed: 04/09/2019

1,1,1-Trichloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1,2,2-Tetrachloroethane	BL00	0.40	ug/L
1,1,2-Trichloroethane	BL00	1.00	ug/L
1,1-Dichloroethane	BL00	1.00	ug/L
1,1-Dichloroethylene	BL00	1.00	ug/L
1,1-Dichloroethene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloroethene	BL00	1.00	ug/L
1,2-Dichloroethane	BL00	1.00	ug/L
1,2-Dichloroethene	BL00	1.00	ug/L
1,3-Dichlorobenzene	BL00	1.00	ug/L
1,3-Dichlorobenzene	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
1,4-Dichlorobenzene	BL00	1.00	ug/L
2,2-Dichloropropane	BL00	2.00	ug/L
2-Butanone (MEK)	BL00	5.00	ug/L
2-Pentanone (MIBK)	BL00	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	BL00	5.00	ug/L
Acetone	BL00	10.0	ug/L
Acetonitrile	BL00	10.0	ug/L
Acetone	BL00	10.0	ug/L
Acetonitrile	BL00	5.00	ug/L
Allyl chloride	BL00	1.00	ug/L
Benzene	BL00	1.00	ug/L

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatiles Organics Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: B0001261 - B0001268

Blank (B0001261-B0001268)	Filtered & Analyzed 04/16/2019									
Bromochloromethane	BL00	1.00	ug/L							
Bromodichloromethane	BL00	0.50	ug/L							
Bromoflouride	BL00	1.00	ug/L							
Bromomethane	BL00	1.00	ug/L							
Carbon disulfide	BL00	10.0	ug/L							
Carbon tetrachloride	BL00	1.00	ug/L							
Chlorobenzene	BL00	1.00	ug/L							
Chloroethane	BL00	1.00	ug/L							
Chloroform	BL00	0.50	ug/L							
Chloromethane	BL00	1.00	ug/L							
Dibromochloride	BL00	5.00	ug/L							
o-1,2-Dichloromethane	BL00	1.00	ug/L							
o-1,3-Dichlorobenzene	BL00	1.00	ug/L							
Dibromodichloromethane	BL00	0.50	ug/L							
Dibromomethane	BL00	1.00	ug/L							
Dichlorodifluoromethane	BL00	1.00	ug/L							
Ethyl methylsulfide	BL00	5.00	ug/L							
Ethylbenzene	BL00	1.00	ug/L							
Heptachlorobenzene	BL00	0.50	ug/L							
Iodomethane	BL00	10.0	ug/L							
Isobutyl Alcohol	BL00	40.0	ug/L							
m,p-Xylene	BL00	2.00	ug/L							
Methoxybenzene	BL00	1.00	ug/L							
Methyl methylsulfide	BL00	2.00	ug/L							
Methylene chloride	BL00	4.00	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: B000018 - B000008

Batch: B000018 - B000008				Prepared & Analyzed: 04/09/2019						
Metals (B000018-B000008)										
m-Xylene	BL00	1.00	ug/L							
Propene	BL00	40.0	ug/L							
Bipene	BL00	1.00	ug/L							
Tetrahydrothiophene (PCE)	BL00	1.00	ug/L							
Stilbene	BL00	1.00	ug/L							
trans-1,2-Dichloroethene	BL00	1.00	ug/L							
trans-1,3-Dichloropropene	BL00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BL00	4.00	ug/L							
Tetrahydrofuran	BL00	1.00	ug/L							
Tetrahydrofuranone	BL00	1.00	ug/L							
Vinyl acetate	BL00	10.0	ug/L							
Vinyl chloride	BL00	0.50	ug/L							
Xylenes, Total	BL00	3.00	ug/L							
Sum: 1,3-Dichlorobenzene (Sum)	45.7		ug/L	50.0		81.4		70-130		
Sum: 4-Bromobenzonitrile (Sum)	40.3		ug/L	50.0		68.8		70-130		
Sum: Chlorobenzonitrile (Sum)	35.1		ug/L	50.0		53.7		70-130		
Sum: Benzene-60 (Sum)	30.8		ug/L	50.0		47.1		70-130		

Batch: B000018 - B000008				Prepared & Analyzed: 04/09/2019						
LCB (B000018-B000008)										
1,1,1-Trichloroethane	48.1	0.4	ug/L	50.0		93.2		80-130		
1,1,1-Trichloroethane	48.1	1	ug/L	50.0		93.3		80-130		
1,1,2-Trichloroethane	47.4	0.4	ug/L	50.0		94.7		80-130		
1,1,2-Trichloroethane	48.2	1	ug/L	50.0		93.8		75-125		
1,1-Dichloroethane	44.8	1	ug/L	50.0		89.8		75-125		
1,1-Dichloroethylene	41.3	1	ug/L	50.0		83.4		70-130		

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatiles Organics Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD00281 - BVD0008										
LOQ (BCD00281-BVD)										
Prepared & Analyzed: 04/09/2019										
1,1-Dichloroethane	45.4	1	ug/L	50.0	50.0	90.8	75-125			
1,2,3-Trichloroethane	44.0	1	ug/L	50.0	50.0	87.9	75-125			
1,1,1-Trichloroethane	48.1	1	ug/L	50.0	50.0	96.2	80-135			
1,2-Dichlorobenzene	46.4	1	ug/L	50.0	50.0	92.8	75-125			
1,3-Dichlorobenzene	40.0	1	ug/L	50.0	50.0	80.0	75-125			
1,2-Dibromochloroethane	42.8	1	ug/L	50.0	50.0	85.6	75-125			
1,3-Dibromobenzene	45.8	1	ug/L	50.0	50.0	91.7	75-125			
1,2-Dibromoethane	45.2	1	ug/L	50.0	50.0	90.7	75-125			
1,4-Dibromobenzene	41.1	1	ug/L	50.0	50.0	82.2	75-125			
1,2-Dibromopropane	31.8	2	ug/L	50.0	50.0	63.6	30-150			
2-Butanone (MEK)	47.4	5	ug/L	50.0	50.0	94.8	30-150			
3-Pentanone (MIBK)	47.7	5	ug/L	50.0	50.0	95.4	30-150			
4-Methyl-2-pentanone (MBO)	44.7	5	ug/L	50.0	50.0	89.4	30-150			
Acetone	45.8	10	ug/L	50.0	50.0	91.6	40-160			
Acrylonitrile	202	5	ug/L	200	200	100	75-150			
Benzene	44.0	1	ug/L	50.0	50.0	88.0	60-150			
Bromochloromethane	40.2	1	ug/L	50.0	50.0	80.4	60-150			
Bromodichloromethane	45.2	0.5	ug/L	50.0	50.0	90.4	75-150			
Bromofluoromethane	45.4	1	ug/L	50.0	50.0	90.7	65-130			
Bromomethane	34.3	1	ug/L	50.0	50.0	68.6	30-140			
Carbon disulfide	52.1	10	ug/L	50.0	50.0	104	30-150			
Carbon tetrachloride	40.9	1	ug/L	50.0	50.0	81.8	65-140			
Chlorobenzene	46.1	1	ug/L	50.0	50.0	92.2	60-150			
Chloroethane	42.7	1	ug/L	50.0	50.0	85.4	60-150			
Chloroform	45.8	0.5	ug/L	50.0	50.0	91.7	60-150			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD003M - 04/09/2019

LOQ (BCD003M-001)			Prepared & Analyzed: 04/09/2019							
Chloromethane	42.7	1	ug/L	50.0		85.4	80-120			
cis-1,2-Dichloroethylene	44.1	1	ug/L	50.0		88.2	75-120			
cis-1,3-Dichloropropene	47.0	1	ug/L	50.0		94.0	75-120			
Dibromochloromethane	48.9	0.5	ug/L	50.0		97.8	60-120			
Dibromomethane	45.0	1	ug/L	50.0		90.0	75-120			
Dibromofluoromethane	37.1	1	ug/L	50.0		74.2	30-100			
Ethylbenzene	44.8	1	ug/L	50.0		89.6	75-120			
Heptachlorobutadiene	48.2	0.8	ug/L	50.0		96.4	50-140			
m,p-Xylene	54.8	2	ug/L	100		54.8	75-150			
Methylene chloride	43.0	4	ug/L	50.0		86.0	55-140			
n-Xylene	47.0	1	ug/L	50.0		94.0	55-120			
Styrene	47.0	1	ug/L	50.0		94.0	65-120			
Tetrachloroethylene (PCE)	58.8	1	ug/L	50.0		118	45-150			
Toluene	44.2	1	ug/L	50.0		88.4	75-120			
trans-1,2-Dichloroethylene	52.0	1	ug/L	50.0		94.0	50-140			
trans-1,3-Dichloropropene	45.2	1	ug/L	50.0		90.4	50-140			
Trichloroethylene	42.7	1	ug/L	50.0		85.4	75-120			
Trichlorofluoromethane	40.7	1	ug/L	50.0		81.4	60-140			
Vinyl chloride	44.7	0.5	ug/L	50.0		89.4	55-145			
Sum: 1,2-Dichloroethane et (Sum)				ug/L	50.0	97.2	75-120			
Sum: 4-Bromofluorobenzene (Sum)				ug/L	50.0	101	75-120			
Sum: Dibromofluoromethane (Sum)				ug/L	50.0	102	75-120			
Sum: Toluene et (Sum)				ug/L	50.0	89.8	75-120			

Matrix Spike (BCD003M-001)	Source: 1808175-01	Prepared & Analyzed: 04/09/2019
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Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B000238 - B000238										
Main: Spike (B000238-MBT)										
Source: B000238-01										
Prepared & Analyzed: 04/09/2019										
1,1,1,2-Tetrafluoroethane	42.5	0.4	ug/L	50.0	51.00	81.0	80-100			
1,1,1-Trichloroethane	28.0	1	ug/L	50.0	51.00	77.8	80-100			
1,1,2,2-Tetrafluoroethane	42.8	0.4	ug/L	50.0	51.00	85.6	80-100			
1,1,2-Trichloroethane	44.1	1	ug/L	50.0	51.00	88.2	75-120			
1,1-Dichloroethane	42.9	1	ug/L	50.0	6.27	73.8	75-100			
1,1-Dichloroethylene	26.4	1	ug/L	50.0	51.00	76.8	75-100			
1,1-Dichloroethene	27.0	1	ug/L	50.0	51.00	74.0	75-100			
1,2,2-Trichloroethane	29.2	1	ug/L	50.0	51.00	74.4	75-100			
1,2,4-Trichlorobenzene	39.9	1	ug/L	50.0	51.00	79.7	60-100			
1,2-Dichlorobenzene	42.8	1	ug/L	50.0	51.00	85.6	75-100			
1,2-Dichloroethane	38.8	1	ug/L	50.0	51.00	77.6	75-100			
1,2-Dichloroethene	40.9	1	ug/L	50.0	51.00	81.8	75-100			
1,3-Dichlorobenzene	41.5	1	ug/L	50.0	51.00	83.0	75-100			
1,3-Dichloroethene	42.1	1	ug/L	50.0	51.00	84.2	75-100			
1,4-Dichlorobenzene	42.6	1	ug/L	50.0	4.59	79.0	75-100			
2,2-Dichloropropane	26.7	2	ug/L	50.0	51.00	71.8	75-100			
2-Butanone (MEK)	46.1	5	ug/L	50.0	51.00	92.2	30-100			
2-Pentanone (MIBK)	46.0	5	ug/L	50.0	51.00	92.0	30-100			
4-Methyl-2-pentanone (MIBK)	43.7	5	ug/L	50.0	51.00	87.4	30-100			
Acetone	43.0	10	ug/L	50.0	51.00	86.0	40-140			
Acrylonitrile	250	5	ug/L	250	51.00	100	75-100			
Benzene	42.3	1	ug/L	50.0	51.00	84.6	60-100			
Bromochloromethane	24.0	1	ug/L	50.0	51.00	74.0	60-100			
Bromodichloromethane	40.4	0.5	ug/L	50.0	51.00	80.7	75-100			
Bromofluoromethane	42.0	1	ug/L	50.0	51.00	84.0	75-100			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B009238 - B009238										
Matrix Spike (B009238-MS1)										
Source: 180917941 Prepared & Analyzed: 04/09/2019										
Bromomethane	23.3	1	ug/L	50.0	BLCO	46.6	30-140			
Carbon disulfide	48.0	10	ug/L	50.0	BLCO	96.0	30-160			
Carbon tetrachloride	26.7	1	ug/L	50.0	BLCO	79.4	30-140			
Chloroacetylene	49.0	1	ug/L	50.0	1.04	97.9	60-120			
Chloroethane	50.2	1	ug/L	50.0	1.81	99.8	60-120			
Chloroform	27.4	0.5	ug/L	50.0	BLCO	79.7	60-120			
Chloromethane	54.5	1	ug/L	50.0	BLCO	99.1	60-120			
cis-1,2-Dichloroethylene	45.1	1	ug/L	50.0	8.33	79.8	70-125			
cis-1,3-Dichloropropene	49.5	1	ug/L	50.0	BLCO	99.0	70-130			
Dibromochloromethane	44.8	0.5	ug/L	50.0	BLCO	99.7	60-120			
Dibromomethane	41.1	1	ug/L	50.0	BLCO	82.1	70-125			
Dichlorodifluoromethane	30.2	1	ug/L	50.0	BLCO	60.4	30-100			
Ethylbenzene	36.8	1	ug/L	50.0	BLCO	79.6	70-125			
Heptachlorobenzene	42.4	0.5	ug/L	50.0	BLCO	94.9	30-100			
Hex Fluoride	64.8	2	ug/L	120	BLCO	64.8	70-130			
Methylene chloride	50.0	4	ug/L	50.0	BLCO	79.1	30-140			
n-Heptane	42.0	1	ug/L	50.0	BLCO	83.2	60-120			
Hexane	44.1	1	ug/L	50.0	BLCO	99.2	60-120			
Tetrachloroethylene (PCE)	58.8	1	ug/L	50.0	BLCO	120	40-150			
Toluene	40.8	1	ug/L	50.0	BLCO	81.2	70-125			
trans-1,2-Dichloroethylene	35.4	1	ug/L	50.0	BLCO	70.1	60-140			
trans-1,3-Dichloropropene	39.9	1	ug/L	50.0	BLCO	79.8	60-140			
Trichloroethylene	41.2	1	ug/L	50.0	0.89	81.2	70-125			
Trichlorofluoromethane	34.3	1	ug/L	50.0	BLCO	68.6	60-140			
Vinyl chloride	37.4	0.5	ug/L	50.0	2.15	79.8	30-140			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: B000038 - B000008

Matrix Spike (B000038-B01)		Source: 1808175-01			Prepared & Analyzed: 04/09/2019					
Sum 1,2-Dichloroethane-d4 (Sum)	41.8		ug/L	50.0		83.6	75-120			
Sum 4-Bromofluorobenzene (Sum)	50.3		ug/L	50.0		101	75-120			
Sum Chloromethylenethane (Sum)	48.0		ug/L	50.0		96.0	75-120			
Sum Toluene-d8 (Sum)	49.9		ug/L	50.0		99.7	75-120			

Matrix Spike One (B000038-B02)		Source: 1808175-01			Prepared & Analyzed: 04/09/2019					
1,1,1,2-Tetrafluoroethane	95.2	0.4	ug/L	90.0	BLOD	90.4	80-130	6.13	30	
1,1,1-Trichloroethane	40.9	1	ug/L	50.0	BLOD	81.9	65-130	4.93	30	
1,1,1,2-Tetrafluoroethane	48.4	0.4	ug/L	90.0	BLOD	92.9	65-130	8.53	30	
1,1,2-Trichloroethane	47.5	1	ug/L	50.0	BLOD	95.0	75-125	7.36	30	
1,1-Dichloroethane	44.0	1	ug/L	50.0	6.27	81.3	70-135	6.97	30	
1,1-Dichloroethene	39.7	1	ug/L	50.0	BLOD	77.4	70-130	8.82	30	
1,1-Dichloropropene	42.9	1	ug/L	50.0	BLOD	85.8	75-135	14.7	30	
1,2,3-Trichloropropene	45.4	1	ug/L	50.0	BLOD	90.9	75-125	14.8	30	
1,2,4-Trichlorobenzene	46.6	1	ug/L	90.0	BLOD	93.3	65-135	17.0	30	
1,2-Dichlorobenzene	47.6	1	ug/L	50.0	BLOD	94.9	70-120	10.8	30	
1,2-Dichloroethane	36.5	1	ug/L	90.0	BLOD	77.1	70-130	6.25	30	
1,2-Dichloropropene	42.8	1	ug/L	50.0	BLOD	85.6	75-125	4.27	30	
1,3-Dichlorobenzene	45.8	1	ug/L	90.0	BLOD	91.2	75-125	8.48	30	
1,3-Dichloropropene	44.3	1	ug/L	90.0	BLOD	88.6	75-125	5.07	30	
1,4-Dichlorobenzene	47.7	1	ug/L	90.0	4.89	88.2	75-125	9.01	30	
1,2-Dichloropropene	43.7	2	ug/L	90.0	BLOD	87.3	75-138	20.2	30	
2-Butanone (MIBK)	49.4	5	ug/L	90.0	BLOD	96.9	30-100	20.8	30	
2-Hexanone (MIBK)	51.7	5	ug/L	90.0	BLOD	103	35-130	14.3	30	
4-Methyl-2-pentanone (MIBK)	47.3	5	ug/L	90.0	BLOD	94.6	65-138	8.00	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD00208 - 0000008

Matrix Spike Spig (BCD00208-0000008)	Source: 1804179-01			Prepared & Analyzed: 04/09/2019						
Acetone	52.8	10	ug/L	50.0	54.00	108	80-180	20.4	30	
Acrylonitrile	205	5	ug/L	200	51.00	102	75-150	2.192	30	
Benzene	43.8	1	ug/L	50.0	51.00	87.8	50-100	5.71	30	
Bromochloromethane	41.4	1	ug/L	50.0	51.00	92.9	60-120	6.69	30	
Bromodichloromethane	42.3	0.5	ug/L	50.0	51.00	88.8	75-150	2.50	30	
Bromotoluene	55.4	1	ug/L	50.0	51.00	90.8	75-150	7.56	30	
Bromonethane	35.1	1	ug/L	50.0	51.00	92.1	20-100	23.4	30	
Carbon disulfide	41.0	10	ug/L	50.0	51.00	83.7	35-160	13.7	30	
Carbon tetrachloride	49.5	1	ug/L	50.0	51.00	94.1	50-100	5.65	30	
Chlorobenzene	45.8	1	ug/L	50.0	3.08	91.4	50-100	9.15	30	
Chloroethane	35.4	1	ug/L	50.0	1.81	75.3	50-100	8.83	30	
Chloroform	42.9	0.5	ug/L	50.0	51.00	89.8	50-100	13.8	30	
Chloromethane	45.4	1	ug/L	50.0	51.00	83.8	40-100	18.0	30	
cis-1,2-Dichloroethane	51.0	1	ug/L	50.0	5.20	95.0	75-120	10.0	30	
cis-1,2-Dichloropentane	52.9	1	ug/L	50.0	51.00	87.8	75-150	3.04	30	
Dibromochloromethane	47.0	0.5	ug/L	50.0	51.00	94.0	50-100	4.70	30	
Dibromomethane	44.4	1	ug/L	50.0	51.00	95.0	75-120	7.50	30	
Dichlorodifluoromethane	33.3	1	ug/L	50.0	51.00	95.7	30-100	9.86	30	
Ethylbenzene	43.8	1	ug/L	50.0	51.00	87.8	75-120	6.47	30	
Heptachlorocyclopentadiene	49.0	0.8	ug/L	50.0	51.00	98.1	50-100	14.4	30	
m,p-Xylenes	52.8	2	ug/L	100	51.00	92.8	75-150	6.00	30	
Methylene chloride	43.5	4	ug/L	50.0	51.00	90.3	50-100	6.06	30	
o-Xylene	45.7	1	ug/L	50.0	51.00	93.4	50-100	9.12	30	
Toluene	45.5	1	ug/L	50.0	51.00	93.0	50-100	6.30	30	
Tetrachloroethylene (PCE)	55.2	1	ug/L	50.0	51.00	100	40-100	6.64	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD00126 - 0000008

Matrix Spike Spig (BCD00126-0000008)		Source: 1809179-01		Prepared & Analyzed: 04/09/2019						
Toluene	44.0	1	ug/L	50.0	BL00	88.0	75-120	8.08	30	
trans-1,2-Dichloroethene	38.9	1	ug/L	50.0	BL00	79.2	80-140	12.1	30	
trans-1,3-Dichloropropene	43.5	1	ug/L	50.0	BL00	88.8	55-140	8.54	30	
Trichloroethylene	42.0	1	ug/L	50.0	0.89	60.0	70-120	2.77	30	
Trichlorofluoromethane	35.2	1	ug/L	50.0	BL00	70.5	60-145	10.9	30	
Vinyl chloride	41.6	0.5	ug/L	50.0	2.15	78.8	50-145	10.5	30	
Sum: 1,2-Dichloroethane-d4 (Sum)	48.8		ug/L	50.0		97.6	70-120			
Sum: 4-Bromofluorobenzene (Sum)	49.7		ug/L	50.0		99.4	75-120			
Sum: Dibromofluoromethane (Sum)	47.8		ug/L	50.0		95.5	70-120			
Sum: Toluene-d8 (Sum)	47.9		ug/L	50.0		95.8	70-120			

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	SMC Limit	RPD	RPD Limit	Qual
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Batch: BCD0118 - SW0118C

Blank (BCD0118-BLK1)	Prepared: 04/04/2018 Analyzed: 04/08/2018									
1,2,4,5-Tetrahalobenzene	BL00	10.0	ug/L							
1,3,5-Trihalobenzene	BL00	5.00	ug/L							
1,3-Dihalobenzene	BL00	2.50	ug/L							
1,4-Halogenobenzene	BL00	10.0	ug/L							
1-Naphthylamine	BL00	10.0	ug/L							
1,2,4,6-Tetrahalobenzene	BL00	10.0	ug/L							
2,4,6-Trihalobenzene	BL00	10.0	ug/L							
2,4,6-Trihalobenzene	BL00	10.0	ug/L							
2,4-Dihalobenzene	BL00	10.0	ug/L							
2,4-Dihalobenzene	BL00	5.00	ug/L							
2,4-Dihalobenzene	BL00	10.0	ug/L							
1,4-Dinitrobenzene	BL00	10.0	ug/L							
2,6-Dinitrobenzene	BL00	10.0	ug/L							
2,6-Dinitrobenzene	BL00	10.0	ug/L							
2-Acetylaminoanthracene	BL00	2.00	ug/L							
2-Chloronaphthalene	BL00	10.0	ug/L							
2-Chlorophenol	BL00	10.0	ug/L							
2-Methylnaphthalene	BL00	10.0	ug/L							
2-Naphthylamine	BL00	10.0	ug/L							
2-Nitroanthracene	BL00	20.0	ug/L							
2-Nitrophenol	BL00	10.0	ug/L							
2,7-Dichlorodioxine	BL00	10.0	ug/L							
2,7-Dimethylbenzidine	BL00	2.50	ug/L							
2-Methylanthracene	BL00	10.0	ug/L							
2-Nitroanthracene	BL00	20.0	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - BWM30C

Batch (B0001M-BLM7)	Prepared: 04/04/2018 Analyzed: 04/08/2018									
1,1-Dichloro-2-methyl-2-propyl	BL00	10.0	ug/L							
1-Aminobiphenyl	BL00	10.0	ug/L							
1-Bromophenyl phenyl ether	BL00	10.0	ug/L							
1-Chloroanthracene	BL00	10.0	ug/L							
1-Chlorophenyl phenyl ether	BL00	10.0	ug/L							
1-Naphthol	BL00	20.0	ug/L							
1-Nitrophenol	BL00	10.0	ug/L							
1-Nonyl-4-sulfonate	BL00	10.0	ug/L							
1,10-Dibromofluorene (a) anthracene	BL00	10.0	ug/L							
Azaphenanthrene	BL00	10.0	ug/L							
Azocetylfluorene	BL00	10.0	ug/L							
Azophenanthrene	BL00	20.0	ug/L							
Anthracene	BL00	10.0	ug/L							
Benzo (a) anthracene	BL00	0.05	ug/L							
Benzo (a) pyrene	BL00	0.10	ug/L							
Benzo (b) fluoranthene	BL00	10.0	ug/L							
Benzo (g,h,i) perylene	BL00	10.0	ug/L							
Benzo (k) fluoranthene	BL00	10.0	ug/L							
Benzyl alcohol	BL00	20.0	ug/L							
Is (2-Chloromethyl) methylene	BL00	10.0	ug/L							
Is (2-Chloromethyl) ether	BL00	10.0	ug/L							
1,7-Dicyclo (1-Phenylpropene)	BL00	10.0	ug/L							
Is (2-Ethylhexyl) phthalate	BL00	2.50	ug/L							
Butyl benzyl phthalate	BL00	10.0	ug/L							
Chlorobenzene	BL00	2.50	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - SW0010C

Batch (B0001M-BL01)	Prepared: 04/04/2019 Analyzed: 04/08/2019									
Chrysene	BL00	10.0	ug/L							
Dibenz	BL00	2.50	ug/L							
Dibenz (a,h) anthracene	BL00	10.0	ug/L							
Dibenzofuran	BL00	5.00	ug/L							
Dibutyl phthalate	BL00	10.0	ug/L							
Dioxinone	BL00	2.50	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Din-butyl phthalate	BL00	10.0	ug/L							
Dioctyl phthalate	BL00	10.0	ug/L							
Diphenylene	BL00	10.0	ug/L							
Dibutyl	BL00	2.50	ug/L							
Ethyl methacrylate	BL00	20.0	ug/L							
Ethyl parathion	BL00	2.50	ug/L							
Fenchone	BL00	2.00	ug/L							
Fluoranthene	BL00	10.0	ug/L							
Fluorene	BL00	10.0	ug/L							
Hexachlorobenzene	BL00	0.05	ug/L							
Hexachlorobutadiene	BL00	10.0	ug/L							
Hexachlorocyclopentadiene	BL00	10.0	ug/L							
Hexachloroethane	BL00	10.0	ug/L							
Hexachloropropene	BL00	2.00	ug/L							
Indene (1,2,3-cd) pyrene	BL00	10.0	ug/L							
Isobut	BL00	10.0	ug/L							
Isophrene	BL00	10.0	ug/L							
Isoprene	BL00	10.0	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	NAEC Limit	RPD	RPD Limit	Qual
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Batch: B0001M - SW0010C

Batch (B0001M-BL01)

Prepared: 04/04/2019 Analyzed: 04/08/2019

Acetone	BL00	2.50	ug/L							
m,p-Cresols	BL00	10.0	ug/L							
Methoxybenzene	BL00	10.0	ug/L							
Methyl methanesulfonate	BL00	10.0	ug/L							
Methyl parathion	BL00	2.50	ug/L							
Isoprene	BL00	10.0	ug/L							
Nitrobenzene	BL00	10.0	ug/L							
n-Nitrosodibutylamine	BL00	2.50	ug/L							
n-Nitrosodimethylamine	BL00	10.0	ug/L							
n-Nitrosodi-n-butylamine	BL00	10.0	ug/L							
n-Nitrosodi-n-octylamine	BL00	10.0	ug/L							
n-Nitrosodiphenylamine	BL00	10.0	ug/L							
n-Nitrosomethylphenylamine	BL00	2.50	ug/L							
n-Nitrosopyrrolidine	BL00	10.0	ug/L							
n-Nitrosotetrahydro	BL00	2.50	ug/L							
o,o-Dithyl phosphorothioate	BL00	10.0	ug/L							
o,o-Diethyl n-P cyanetyl phosphorothioate	BL00	10.0	ug/L							
o-m,p-Cresols	BL00	10.0	ug/L							
n-Cresol	BL00	10.0	ug/L							
n-Heptane	BL00	2.50	ug/L							
p-(Dimethylamino) acetone	BL00	2.50	ug/L							
p-Chloro-m-xcel	BL00	10.0	ug/L							
Pentachlorobenzene	BL00	10.0	ug/L							
Pentachlorobiphenylene (quaterene)	BL00	1.00	ug/L							
Phenacetin	BL00	10.0	ug/L							

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch BCD015M - BCD015C										
Blank (BCD015M-BLANK) Prepared: 04/04/2019 Analyzed: 04/08/2019										
Phenanthrene	BLOD	10.0	ug/L							
Phenol	BLOD	10.0	ug/L							
Phenols	BLOD	2.50	ug/L							
p-Phenylenediamine	BLOD	10.0	ug/L							
Pronamide	BLOD	10.0	ug/L							
Pyrene	BLOD	10.0	ug/L							
Sahrole	BLOD	2.50	ug/L							
Sum: 2,4,6-Tribromophenol (Sum)	32.6		ug/L	200		16.3	10-66			
Sum: 2-Fluorobiphenyl (Sum)	22.9		ug/L	100		22.9	9-87			
Sum: 2-Fluorophenol (Sum)	28.7		ug/L	200		14.4	10-52			
Sum: Nitrobenzene-d5 (Sum)	26.6		ug/L	100		26.6	10-66.5			
Sum: Phenol-d5 (Sum)	16.2		ug/L	200		9.08	5-33			
Sum: p-Terphenyl-d14 (Sum)	19.6		ug/L	100		19.6	27-133			S
LCS (BCD015M-B51) Prepared: 04/04/2019 Analyzed: 04/08/2019										
2,4,6-Trichlorophenol	10.8	10.0	ug/L	50.0		39.6	11-145			
2,4-Dichlorophenol	21.0	10.0	ug/L	50.0		42.0	11-75			
1,4-Dimethylbenzene	7.31	0.50	ug/L	50.0		14.0	10-121			
1,4-Dinitrophenol	49.2	50.0	ug/L	50.0		90.0	15-188			
1,4-Dinitrotoluene	34.6	50.0	ug/L	50.0		69.2	17-198			
3,4-Dinitrotoluene	26.7	50.0	ug/L	50.0		53.4	16-128			
1-Chloro-2-naphthol	20.4	50.0	ug/L	50.0		40.8	27-68			
1-Chlorophenol	20.4	50.0	ug/L	50.0		40.8	15-118			
2-Nitrophenol	26.0	50.0	ug/L	50.0		52.0	15-115			
1,7-Dichloronaphthalene	28.8	50.0	ug/L	50.0		57.6	25-68			

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limits	RPD	RPD Limit	Qual
Batch: B00012M - BWM19C										
LOQ (B00012M-B01)										
Prepared: 04/04/2019 Analyzed: 04/08/2019										
4-Ethyl-2-methylhexyl	44.2	50.0	ug/L	50.0		55.4	25-120			
4-Bromophenyl phenyl ether	22.8	50.0	ug/L	50.0		45.2	15-110			
4-Chlorophenyl phenyl ether	18.7	50.0	ug/L	50.0		36.4	15-110			
4-Terphenyl	11.2	50.0	ug/L	50.0		22.4	12-70			
Acenaphthene	25.2	50.0	ug/L	50.0		40.3	18-85			
Acenaphthylene	20.8	50.0	ug/L	50.0		41.6	20-75			
Acetophenone	21.4	20.0	ug/L	50.0		42.8	0-200			
Anthracene	27.8	50.0	ug/L	50.0		55.1	34-95			
Benzal (a) anthracene	14.8	5.00	ug/L	50.0		50.2	25-95			
Benzal (a) pyrene	12.7	5.10	ug/L	50.0		65.0	37-110			
Benzal (a) fluoranthene	12.8	50.0	ug/L	50.0		65.8	25-75			
Benzal (a,b) perylene	14.4	50.0	ug/L	50.0		88.7	25-90			
Benzal (a) fluoranthene	15.4	50.0	ug/L	50.0		70.8	20-85			
Is (2-Chloromethyl) methane	21.8	50.0	ug/L	50.0		42.0	20-110			
Is (2-Chloromethyl) ether	20.7	50.0	ug/L	50.0		41.0	20-85			
1,2-Dicyclo (1-chloropropane)	21.8	50.0	ug/L	50.0		41.4	20-85			
Is (2-Ethylhexyl) phthalate	22.8	2.50	ug/L	50.0		45.0	30-120			
Butyl benzyl phthalate	22.8	50.0	ug/L	50.0		45.7	30-110			
Chrysene	33.3	50.0	ug/L	50.0		66.7	20-80			
Dibenz (a,h) anthracene	34.0	50.0	ug/L	50.0		71.8	27-120			
Dodecyl phthalate	28.2	50.0	ug/L	50.0		52.4	20-120			
Dodecyl phthalate	22.9	50.0	ug/L	50.0		44.7	20-120			
Di-n-butyl phthalate	37.0	50.0	ug/L	50.0		74.0	30-110			
Di-n-octyl phthalate	14.2	50.0	ug/L	50.0		28.0	20-100			
Fluoranthene	12.8	50.0	ug/L	50.0		65.0	32-85			

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: 04042019 - 04052019										
LOQ (04042019-04052019)										
				Prepared: 0404/2019 Analyzed: 0405/2019						
Fluorene	21.6	10.0	ug/L	50.0		43.0	16-87			
Fluoranthene	25.7	0.05	ug/L	50.0		51.3	25-128			
Benzo[a]fluoranthene	17.7	10.0	ug/L	50.0		38.8	25-125			
Benzo[b]fluoranthene	12.1	10.0	ug/L	50.0		24.1	25-125			L
Benzo[k]fluoranthene	15.2	10.0	ug/L	50.0		30.5	25-125			
Indeno(1,2,3-cd)pyrene	34.8	10.0	ug/L	50.0		68.1	25-125			
Benzo[e]pyrene	16.4	10.0	ug/L	50.0		36.9	10-110			
Benzo[a]pyrene	18.7	10.0	ug/L	50.0		37.3	12-100			
Benzo[g]herylene	22.5	10.0	ug/L	50.0		45.0	30-97			
1-methyl-2-naphthylamine	8.41	10.0	ug/L	50.0		16.8	10-85			
1-Methyl-2-naphthylol	15.5	10.0	ug/L	50.0		39.0	12-97			
2-methyl-2-naphthylamine	21.3	10.0	ug/L	50.0		40.5	12-97			
2-Chloro-2-naphyl	18.2	10.0	ug/L	50.0		38.3	10-91			
Fluorethene	27.2	10.0	ug/L	50.0		54.5	30-88			
Phthal	8.54	10.0	ug/L	50.0		16.9	10-70			
Pyrene	29.0	10.0	ug/L	50.0		55.9	27-110			
Sum: 2,4,6-Trichlorophenol (Sum)	58.8		ug/L	100		25.3	10-88			
Sum: 2-Fluorobiphenyl (Sum)	21.2		ug/L	100		21.2	9-87			
Sum: 2-Fluorophenol (Sum)	20.6		ug/L	100		10.3	10-62			
Sum: Nitrobenzene-d5 (Sum)	24.2		ug/L	100		24.2	10-88-8			
Sum: Phthal-d5 (Sum)	18.8		ug/L	100		8.39	5-58			
Sum: p-Deuterophthal (Sum)	27.4		ug/L	100		27.4	27-133			
Matrix Spike (04042019-04052019)										
				Source: TR042019 Prepared: 0404/2019 Analyzed: 0405/2019						
2,4,6-Trichlorophenol	21.7	10.3	ug/L	51.5	BL00	42.1	11-78			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: B000128 - SW0000										
Main: Spike (B000128-001)										
Source: 180417S-01 Prepared: 04042019 Analyzed: 04162019										
2,4-Dinitrophenol	20.8	10.3	ug/L	01.0	BL00	20.8	11-75			
2,4-Dimethylphenol	18.9	9.02	ug/L	01.0	BL00	20.8	11-85			
2,4-Dinitrophenol	65.0	01.0	ug/L	01.0	BL00	126	11-750			u
2,4-Dinitrotoluene	41.4	10.0	ug/L	01.0	BL00	61.4	17-90			
1-Methyl-2-naphthol	31.4	10.3	ug/L	01.0	BL00	64.8	10-128			
2-Chloronaphthalene	18.0	10.0	ug/L	01.0	BL00	37.0	27-68			
2-Chlorophenol	20.0	10.3	ug/L	01.0	BL00	38.8	19-64			
2-Nitrophenol	26.0	10.3	ug/L	01.0	BL00	51.6	11-75			
5,7-Dichloronitrobenzene	18.0	10.0	ug/L	01.0	BL00	36.1	10-65			
1,3-Dinitro-2-methylbenzene	17.8	01.0	ug/L	01.0	BL00	112	60-130			
4-Bromochlorophenyl ether	24.3	10.3	ug/L	01.0	BL00	51.0	15-710			
4-Chlorophenyl phenyl ether	21.7	10.3	ug/L	01.0	BL00	43.2	15-710			
4-Nitrophenol	17.8	01.0	ug/L	01.0	BL00	34.6	12-70			
Acenaphthene	20.0	10.3	ug/L	01.0	BL00	39.7	12-60			
Acenaphthylene	20.0	10.3	ug/L	01.0	BL00	38.8	12-60			
Acetylfenone	20.2	20.0	ug/L	01.0	BL00	39.0	0-200			
Anthracene	11.0	10.3	ug/L	01.0	BL00	01.0	20-55			
Benz(a)anthracene	34.1	0.05	ug/L	01.0	BL00	69.2	25-85			
Benz(a)pyrene	38.3	0.10	ug/L	01.0	BL00	70.4	25-82			
Benz(b)fluoranthene	38.1	10.3	ug/L	01.0	BL00	75.0	25-75			
Benz(a,A)perylene	17.0	10.3	ug/L	01.0	BL00	71.7	25-80			
Benz(k)fluoranthene	30.4	10.3	ug/L	01.0	BL00	58.0	25-80			
Is(2-Chloromethyl) methane	20.8	10.3	ug/L	01.0	BL00	40.3	20-85			
Is(2-Chloromethyl) ether	19.7	10.3	ug/L	01.0	BL00	34.2	25-85			
2,2'-Dicyclohexyl methane	20.0	10.3	ug/L	01.0	BL00	38.8	25-87			

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSC	NRSC Limit	RPD	RPD Limit	Qual
Batch: BCD012M - SW0150C										
Main: Spike (BCD012M-012)										
Source: 180417N-01 Prepared: 04/04/2019 Analyzed: 04/16/2019										
Is (2-Ethylhexyl) phthalate	25.7	2.58	ug/L	51.5	BLCO	49.8	30-125			
Butyl benzyl phthalate	24.1	10.3	ug/L	51.5	BLCO	48.7	30-115			
Chrysen	36.2	19.3	ug/L	51.5	BLCO	70.3	20-95			
Diene (allyl anthracene)	26.4	19.3	ug/L	51.5	BLCO	76.9	27-126			
Dodecyl phthalate	31.1	14.3	ug/L	51.5	BLCO	61.8	25-130			
Dimethyl phthalate	29.9	10.4	ug/L	51.5	BLCO	48.8	25-125			
Di-n-butyl phthalate	41.7	10.3	ug/L	51.5	BLCO	60.9	25-115			
Di-n-octyl phthalate	17.3	10.3	ug/L	51.5	BLCO	30.8	25-105			
Fluorethene	17.9	18.9	ug/L	41.5	BLCO	72.1	25-95			
Fluorene	24.0	19.3	ug/L	51.5	BLCO	48.8	18-87			
Hexachlorobenzene	28.1	0.05	ug/L	51.5	BLCO	54.8	25-125			
Hexachlorocyclopentadiene	21.7	16.3	ug/L	51.5	BLCO	45.1	25-125			
Hexachloroindene	15.1	16.3	ug/L	51.5	BLCO	31.2	10-85			
Hexachloronaphthalene	17.4	16.3	ug/L	51.5	BLCO	33.7	25-125			
Indene (1,2,3-alk) pyrene	28.8	19.3	ug/L	51.5	BLCO	74.4	25-125			
Ipponone	17.1	10.3	ug/L	51.5	BLCO	35.1	10-110			
Naphthalene	15.1	19.3	ug/L	51.5	BLCO	35.1	12-100			
Nitrobenzene	21.8	10.3	ug/L	51.5	BLCO	42.3	21-77			
n-Butylbenzylphthalate	15.1	10.3	ug/L	51.5	BLCO	19.8	15-85			
n-Butyl-n-propylphthalate	18.7	10.3	ug/L	51.5	BLCO	38.3	12-67			
n-Butylcyclohexylphthalate	25.1	10.3	ug/L	51.5	BLCO	48.8	12-67			
p-Chloro-n-octyl	24.1	10.3	ug/L	51.5	BLCO	48.7	15-91			
Phenanthrene	31.8	19.3	ug/L	51.5	BLCO	61.8	25-115			
Phenol	0.80	10.3	ug/L	52.1	BLCO	17.1	15-75			
Pyrene	27.8	19.3	ug/L	51.5	BLCO	52.1	23-110			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD019M - SW019C										
Matrix Spike (BCD019M-MS1)										
		Source: 1808179-01			Prepared: 04/04/2019		Analyzed: 04/08/2019			
Sum 2,4,6-Tribromophenol (Sum)	88.7		ug/L	200		31.8	10-80			
Sum 2-Fluorophenyl (Sum)	13.8		ug/L	500		79.7	0-87			
Sum 2-Fluorophenol (Sum)	20.2		ug/L	200		9.80	10-60			S
Sum Nitrobenzene-D7 (Sum)	24.1		ug/L	100		21.3	10-90.0			
Sum Phenol-D5 (Sum)	18.1		ug/L	200		7.80	5-30			
Sum p-Nitrophenyl-D4 (Sum)	24.8		ug/L	100		26.0	27-133			S
Matrix Spike Dup (BCD019M-MS2)										
		Source: 1808179-02			Prepared: 04/04/2019		Analyzed: 04/08/2019			
1,4-Dioxane	25.3	11.4	ug/L	55.8	BLOD	45.6	11-75	15.4	20	
1,4-Dioxolane	22.1	11.1	ug/L	55.8	BLOD	41.6	11-75	12.0	20	
1,4-Dioxahydro	21.5	0.56	ug/L	55.8	BLOD	38.8	11-65	24.1	20	P
1,4-Dioxaphenol	55.7	55.8	ug/L	55.8	BLOD	124	11-110	5.53	20	M
1,4-Dioxatoluene	45.8	11.1	ug/L	55.8	BLOD	64.2	17-65	12.1	20	
1,5-Dioxatoluene	29.9	11.1	ug/L	55.8	BLOD	71.8	15-125	17.7	20	
1-Chloro-2-naphthol	13.8	11.1	ug/L	55.8	BLOD	40.6	27-89	15.5	20	
2-chlorophenol	22.7	11.1	ug/L	55.8	BLOD	40.9	19-64	12.7	20	
2-Nitrophenol	30.7	11.1	ug/L	55.8	BLOD	55.3	11-75	14.3	20	
3,7-Dichlorobenzofuran	18.1	11.1	ug/L	55.8	BLOD	34.4	10-85	2.73	20	
4,5-Dibromo-2-methylphenol	61.8	55.8	ug/L	55.8	BLOD	111	40-130	8.07	20	
4-Bromophenyl phenyl ether	30.9	11.1	ug/L	55.8	BLOD	55.7	15-110	18.2	20	
4-Chlorophenyl phenyl ether	29.2	11.1	ug/L	55.8	BLOD	45.3	15-110	14.8	20	
4-Nitrophenol	19.7	55.8	ug/L	55.8	BLOD	35.8	12-70	8.94	20	
Acenaphthene	23.8	11.1	ug/L	55.8	BLOD	43.8	15-90	16.3	20	
Acenaphthylene	21.8	11.1	ug/L	55.8	BLOD	42.8	15-89	14.1	20	
Acetylphenone	25.3	22.2	ug/L	55.8	BLOD	41.8	0-200	13.8	20	

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	USEC	USEC Limit	RPD	RPD Limit	Qual
Batch: BCD0118 - RW0118C										
Main: Spike Spg (BCD0118-RW0118C)										
Source: 180417N-01 Prepared: 04/04/2018 Analyzed: 04/04/2018										
Anthracene	26.2	11.1	ug/L	55.8	BLCO	51.2	25-85	9.85	20	
Benzo (a) anthracene	26.4	0.08	ug/L	55.8	BLCO	55.8	25-85	9.85	20	
Benzo (a) pyrene	26.1	0.01	ug/L	55.8	BLCO	88.8	25-82	4.87	20	
Benzo (b) fluoranthene	26.7	11.1	ug/L	55.8	BLCO	66.0	25-75	1.61	20	
Benzo (g,h,i) perylene	26.6	11.1	ug/L	55.8	BLCO	69.8	25-80	4.29	20	
Benzo (k) fluoranthene	46.1	11.1	ug/L	55.8	BLCO	72.2	25-85	12.5	20	
Is (2-Chloromethyl) methylene	23.0	11.1	ug/L	55.8	BLCO	41.2	25-85	9.85	20	
Is (2-Chloromethyl) ether	22.9	11.1	ug/L	55.8	BLCO	41.5	25-85	15.1	20	
1,2,3,4-Dibenz (h,j) perylene	59.8	11.1	ug/L	55.8	BLCO	41.7	25-87	14.7	20	
Is (2-Ethylhexyl) phthalate	21.4	2.79	ug/L	55.8	BLCO	49.2	20-129	6.48	20	
Butyl benzyl phthalate	27.1	11.1	ug/L	55.8	BLCO	48.8	25-118	11.8	20	
Chrysene	17.8	11.1	ug/L	55.8	BLCO	88.2	25-95	4.42	20	
Dibenz (a,h) anthracene	45.9	11.1	ug/L	55.8	BLCO	73.6	17-129	3.82	20	
Dibutyl phthalate	25.3	11.1	ug/L	55.8	BLCO	62.5	25-125	12.4	20	
Dimethyl phthalate	29.9	11.1	ug/L	55.8	BLCO	53.8	25-125	17.4	20	
Dio-n-butyl phthalate	44.2	11.1	ug/L	55.8	BLCO	79.8	25-118	5.79	20	
Di-n-octyl phthalate	19.8	11.1	ug/L	55.8	BLCO	55.5	22-105	12.2	20	
Fluoranthene	26.2	11.1	ug/L	55.8	BLCO	70.4	25-85	5.28	20	
Fluorene	27.9	11.1	ug/L	55.8	BLCO	52.2	15-87	15.2	20	
Hexachlorobenzene	22.2	0.08	ug/L	55.8	BLCO	58.8	25-125	13.4	20	
Hexachlorobutadiene	23.2	11.1	ug/L	55.8	BLCO	41.8	25-125	7.8	20	
Hexachlorocyclopentadiene	17.1	11.1	ug/L	55.8	BLCO	20.7	15-92	6.84	20	
Hexachloroethane	20.3	11.1	ug/L	55.8	BLCO	28.8	25-125	15.2	20	
Indene (1,2,3-cd) pyrene	26.8	11.1	ug/L	55.8	BLCO	71.2	25-125	9.21	20	
Isophthalate	19.8	11.1	ug/L	55.8	BLCO	25.2	15-118	12.7	20	

Certificate of Analysis

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Semivolatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD0118 - SW0118C										
Main: Spike Dup (BCD0118-SW0118C)										
Source: 180417141 Prepared: 04/04/2018 Analyzed: 04/08/2018										
Naphthalene	20.8	11.1	ug/L	85.8	BLOD	38.8	12-100	52.3	20	
Nitrobenzene	25.3	11.1	ug/L	85.8	BLOD	45.8	27-77	54.8	20	
m-Nitrodimethylaniline	15.2	11.1	ug/L	85.8	BLOD	37.4	10-88	40.7	20	P
m-Nitroo-tol-xyl-propylamine	21.4	11.1	ug/L	85.8	BLOD	39.0	12-67	44.4	20	
o-Nitroaniline	27.8	11.1	ug/L	85.8	BLOD	50.1	12-97	10.5	20	
p-Chloro-m-xylene	24.8	11.1	ug/L	85.8	BLOD	50.3	10-81	14.9	20	
Phenanthrene	35.1	11.1	ug/L	85.8	BLOD	63.2	35-115	11.1	20	
Phenol	11.0	11.1	ug/L	85.1	BLOD	19.7	10-70	21.1	20	P
Pyrene	82.9	11.1	ug/L	85.8	BLOD	58.2	23-110	16.6	20	
Sum 2,4,6-Trinitrophenol (Sum)	78.8		ug/L	100		35.5	10-66			
Sum 2-Fluorobenzyl (Sum)	20.8		ug/L	111		20.3	9-67			
Sum 2-Fluorophenol (Sum)	23.8		ug/L	100		11.5	10-32			
Sum Nitrobenzene-d5 (Sum)	27.8		ug/L	111		24.9	10-88.5			
Sum Phenol-d5 (Sum)	38.8		ug/L	100		9.01	5-33			
Sum p-Toluenol-d14 (Sum)	26.8		ug/L	111		26.5	27-133			S

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRDC	NRDC Limit	RPD	RPD Limit	Qual
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Batch: B020218 - B020218

Batch (B020218-B0218)	Prepared: 04/02/2018 Analyzed: 04/08/2018									
4,4'-DDD	BL00	0.050	ug/L							
PCB as Aroclor 1218	BL00	0.200	ug/L							
PCB as Aroclor 1221	BL00	0.200	ug/L							
4,4'-DDE	BL00	0.050	ug/L							
PCB as Aroclor 1212	BL00	0.200	ug/L							
PCB as Aroclor 1242	BL00	0.200	ug/L							
PCB as Aroclor 1248	BL00	0.200	ug/L							
4,4'-DDT	BL00	0.050	ug/L							
PCB as Aroclor 1254	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
Atrazine	BL00	0.250	ug/L							
alpha-BHC	BL00	0.050	ug/L							
beta-BHC	BL00	0.050	ug/L							
Chlordane	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
DDT	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Ethion	BL00	0.050	ug/L							
Ethion aldehyde	BL00	0.050	ug/L							
gamma-BHC (Lindane)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: B026288 - B026290										
Batch (B026288-B026290)										
Prepared: 04/05/2019 Analyzed: 04/08/2019										
Toluene	0.000	1.000	ug/L			90.0	20-100			
Sum PCB	0.100		ug/L	0.200		90.0	20-100			
Sum PCBs	0.100		ug/L	0.200		90.0	20-100			
Sum PCBs	0.100		ug/L	0.200		90.0	20-100			
Sum PCBs	0.100		ug/L	0.200		90.0	20-100			
LOB (B026288-B026290)										
Prepared: 04/05/2019 Analyzed: 04/08/2019										
1,1-DDE	0.000	0.050	ug/L	0.100		90.0	20-100			
1,1-DDE	0.000	0.050	ug/L	0.100		90.0	20-100			
1,1-DDE	0.000	0.050	ug/L	0.100		90.0	20-100			
Aroclor	0.000	0.050	ug/L	0.100		90.0	20-100			
alpha-BHC	0.000	0.050	ug/L	0.100		90.0	20-100			
beta-BHC	0.070	0.050	ug/L	0.100		70.0	20-100			
delta-BHC	0.070	0.050	ug/L	0.100		70.0	20-100			
Diuron	0.070	0.050	ug/L	0.100		70.0	20-100			
Endosulfan I	0.000	0.050	ug/L	0.100		90.0	20-100			
Endosulfan II	0.000	0.050	ug/L	0.100		90.0	20-100			
Endosulfan sulfate	0.000	0.050	ug/L	0.100		90.0	20-100			
Endrin	0.000	0.050	ug/L	0.100		90.0	20-100			
Endrin sulfate	0.000	0.050	ug/L	0.100		90.0	20-100			
gamma-BHC (Lindane)	0.000	0.050	ug/L	0.100		90.0	20-100			
Heptachlor	0.000	0.050	ug/L	0.100		90.0	20-100			
Heptachlor epoxide	0.000	0.050	ug/L	0.100		90.0	20-100			
Methoxychlor	0.000	0.050	ug/L	0.100		90.0	20-100			
Sum PCBs	0.100		ug/L	0.200		90.0	20-100			

Certificate of Analysis

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Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: B000000 - B000000										
LC8 (B000000-B01) Prepared: 04/02/2019 Analyzed: 04/08/2019										
Sum PCB	0.178		ug/L	0.200		85.0	23-134			
LC8 (B000000-B02) Prepared: 04/02/2019 Analyzed: 04/08/2019										
PCB as Aroclor 1218	0.720	0.200	ug/L	1.00		72.0	40-100			
PCB as Aroclor 1260	0.690	0.200	ug/L	1.00		69.0	40-100			
Sum PCB	0.910		ug/L	0.200		55.0	30-105			
Sum TCAM	0.170		ug/L	0.200		65.0	30-105			
LC8 (B000000-B03) Prepared: 04/05/2019 Analyzed: 04/08/2019										
Triphenyl	1.80	1.00	ug/L	2.00		76.0	23-134			
LC8 (B000000-B04) Prepared: 04/05/2019 Analyzed: 04/08/2019										
Chlordane	1.48	0.200	ug/L	2.00		59.6	23-134			
Methy Spike (B000000-B05) Source: 1800188-01 Prepared: 04/05/2019 Analyzed: 04/08/2019										
1,1-DDE	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
4,4'-DDE	0.080	0.050	ug/L	0.100	BLOD	60.0	23-134			
1,1'-DDE	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Atten	0.080	0.050	ug/L	0.100	BLOD	60.0	23-134			
alpha-BHC	0.080	0.050	ug/L	0.100	BLOD	65.0	23-134			
beta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
delta-BHC	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Heptin	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan I	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			
Endosulfan II	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100	BLOD	80.0	23-134			
Atten	0.070	0.050	ug/L	0.100	BLOD	70.0	23-134			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Organics, Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOD	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0000 - BCD0000										
Main: Spike (BCD0000-001)										
Source: 1804180-01 Prepared: 04/02/2019 Analyzed: 04/08/2019										
Endrin sulfate	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
gamma-BHC (Lindane)	0.000	0.050	ug/L	0.100	BLOD	50.0	23-134			
Heptachlor	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Heptachlor epoxide	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Methoxychlor	0.000	0.050	ug/L	0.100	BLOD	60.0	23-134			
Sum: TCDD	0.100		ug/L	0.200		50.0	18-112			
Sum: DCB	0.170		ug/L	0.200		85.0	27-131			
Main: Spike (BCD0000-002)										
Source: 1804180-01 Prepared: 04/15/2019 Analyzed: 04/08/2019										
PCB as Aroclor 1218	0.040	0.200	ug/L	1.00	BLOD	94.0	40-120			
PCB as Aroclor 1260	0.090	0.200	ug/L	1.00	BLOD	98.0	40-120			
Sum: DCB	0.112		ug/L	0.200		65.0	30-105			
Sum: TCDD	0.162		ug/L	0.200		75.0	30-105			
Main: Spike Dup (BCD0000-003)										
Source: 1804180-01 Prepared: 04/05/2019 Analyzed: 04/08/2019										
4,4'-DDE	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	12.3	20	
4,4'-DDE	0.081	0.071	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
4,4'-DDT	0.081	0.071	ug/L	0.101	BLOD	80.0	23-134	1.01	20	
Aroclor	0.081	0.071	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
alpha-BHC	0.081	0.071	ug/L	0.101	BLOD	60.0	23-134	1.01	20	
beta-BHC	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
delta-BHC	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Dieldrin	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Endosulfan I	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	1.01	20	
Endosulfan II	0.081	0.071	ug/L	0.101	BLOD	80.0	23-134	1.01	20	
Endosulfan sulfate	0.071	0.071	ug/L	0.101	BLOD	70.0	23-134	12.3	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BCD0288 - SW3510C

Matrix Spike Dup (BCD0288-MS01)	Source: 1900190-01			Prepared: 04/02/2019 Analyzed: 04/08/2019						
Endrin	0.071	0.051	ug/L	0.101	BLOD	70.0	25-134	1.01	20	
Endrin aldehyde	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
gamma-BHC (Lindane)	0.051	0.051	ug/L	0.101	BLOD	50.0	25-134	1.01	20	
Heptachlor	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Heptachlor epoxide	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Methoxychlor	0.061	0.051	ug/L	0.101	BLOD	60.0	25-134	1.01	20	
Sum: TCDD	0.101		ug/L	0.202		50.0	18-112			
Sum: DCB	0.162		ug/L	0.202		75.0	27-131			

Matrix Spike Dup (BCD0288-MS02)	Source: 1900190-01			Prepared: 04/05/2019 Analyzed: 04/08/2019						
PCB as Aroclor 1016	1.05	0.202	ug/L	1.01	BLOD	104	40-120	10.1	20	
PCB as Aroclor 1260	1.20	0.202	ug/L	1.01	BLOD	119	40-120	19.4	20	
Sum: DCB	0.192		ug/L	0.202		95.0	30-105			
Sum: TCDD	0.162		ug/L	0.202		80.0	30-105			

Batch BCD0289 - SW3510C

Blank (BCD0289-BLK1)	Prepared: 04/09/2019 Analyzed: 04/12/2019									
PCB as Aroclor 1016	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1221	BLOD	0.200	ug/L							
PCB as Aroclor 1232	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1242	BLOD	0.200	ug/L							
4,4'-DDE	BLOD	0.050	ug/L							
PCB as Aroclor 1248	BLOD	0.200	ug/L							

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limit	RPD	RPD Limit	Qual
Batch: B000019 - B00000										
Blank (B000019-BLANK) Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1254	BL00	0.200	ug/L							
PCB as Aroclor 1260	BL00	0.200	ug/L							
Aldrin	BL00	0.050	ug/L							
alpha-BHC	BL00	0.050	ug/L							
gamma-BHC	BL00	0.050	ug/L							
Chlordane	BL00	0.200	ug/L							
delta-BHC	BL00	0.050	ug/L							
Dieldrin	BL00	0.050	ug/L							
Endosulfan I	BL00	0.050	ug/L							
Endosulfan II	BL00	0.050	ug/L							
Endosulfan sulfate	BL00	0.050	ug/L							
Exxon	BL00	0.050	ug/L							
Exxon alkylyate	BL00	0.050	ug/L							
gamma-BHC (inert)	BL00	0.050	ug/L							
Heptachlor	BL00	0.050	ug/L							
Heptachlor epoxide	BL00	0.050	ug/L							
Methoxychlor	BL00	0.050	ug/L							
Toxaphene	BL00	1.00	ug/L							
Sum PCB	0.190		ug/L	0.200		95.0	30-100			
Sum TCDF	0.170		ug/L	0.200		85.0	30-100			
Sum PCMX	0.190		ug/L	0.200		75.0	18-112			
Sum OCB	0.190		ug/L	0.200		95.0	27-120			
LCB (B000019-001) Prepared: 04/09/2019 Analyzed: 04/12/2019										
4,4'-DDE	0.070	0.050	ug/L	0.100		70.0	25-134			



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch: B0040201 - BWC010C										
LC8 (B0040201-B01) Prepared: 04/09/2019 Analyzed: 04/12/2019										
4,4'-DDE	0.070	0.050	ug/L	0.100		70.0	25-124			
4,4'-DDT	0.080	0.050	ug/L	0.100		80.0	25-124			
Aroclor	0.050	0.050	ug/L	0.100		50.0	25-124			
alpha-BHC	0.050	0.050	ug/L	0.100		60.0	25-124			
beta-BHC	0.050	0.050	ug/L	0.100		60.0	25-124			
gamma-BHC	0.050	0.050	ug/L	0.100		60.0	25-124			
Dieldrin	0.050	0.050	ug/L	0.100		60.0	25-124			
Endosulfan I	0.110	0.050	ug/L	0.100		110	25-124			
Endosulfan II	0.070	0.050	ug/L	0.100		70.0	25-124			
Endosulfan sulfate	0.050	0.050	ug/L	0.100		60.0	25-124			
Extrin	0.070	0.050	ug/L	0.100		70.0	25-124			
Extrin analogs	0.050	0.050	ug/L	0.100		50.0	25-124			
gamma-BHC (Lindane)	0.050	0.050	ug/L	0.100		60.0	25-124			
Heptachlor	0.050	0.050	ug/L	0.100		60.0	25-124			
Heptachlor epoxide	0.050	0.050	ug/L	0.100		60.0	25-124			
Methoxychlor	0.050	0.050	ug/L	0.100		60.0	25-124			
Sum TCDFs	0.150		ug/L	0.200		60.0	18-112			
Sum DCE	0.180		ug/L	0.200		60.0	21-131			
LC8 (B0040201-B02) Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1218	1.13	0.200	ug/L	1.00		113	60-300			L
PCB as Aroclor 1260	0.890	0.200	ug/L	1.00		89.0	60-300			
Sum DCE	0.150		ug/L	0.200		60.0	20-105			
Sum TCDFs	0.160		ug/L	0.200		60.0	20-105			
LC8 (B0040201-B03) Prepared: 04/09/2019 Analyzed: 04/12/2019										



Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%REC Limit	RPD	RPD Limit	Qual
Batch: B00002018 - BWC010C										
LC8 (B00002018-B01)										
Prepared: 04/09/2018 Analyzed: 04/12/2018										
Toluene	1.45	1.00	ug/L	2.00		66.0	25-134			
Sum PCMH	0.100		ug/L	0.200		50.0	18-112			
Sum PCB	0.140		ug/L	0.200		70.0	27-131			
LC9 (B00002018-B02)										
Prepared: 04/09/2018 Analyzed: 04/12/2018										
Chlorobenzene	1.65	0.200	ug/L	2.00		72.0	25-134			
Sum PCMH	0.140		ug/L	0.200		70.0	18-112			
Sum PCB	0.150		ug/L	0.200		65.0	27-131			
Multi-Spike (B00002018-M01)										
Source: 1802070101						Prepared: 04/09/2018 Analyzed: 04/12/2018				
1,1'-DDE	0.130	0.050	ug/L	0.100	BLDG	100	25-134			
1,1'-DDB	0.130	0.050	ug/L	0.100	BLDG	100	25-134			
1,1'-DDE?	0.120	0.050	ug/L	0.100	BLDG	100	25-134			
Aroclor	0.090	0.050	ug/L	0.100	BLDG	60.0	25-134			
beta-BHC	0.150	0.050	ug/L	0.100	BLDG	100	25-134			
gamma-BHC	0.200	0.050	ug/L	0.100	BLDG	200	25-134			W
delta-BHC	0.090	0.050	ug/L	0.100	BLDG	60.0	25-134			
Dieldrin	0.140	0.050	ug/L	0.100	BLDG	140	25-134			W
Endosulfan I	0.130	0.050	ug/L	0.100	BLDG	130	25-134			
Endosulfan II	0.160	0.050	ug/L	0.100	BLDG	160	25-134			W
Endosulfan sulfate	0.160	0.050	ug/L	0.100	BLDG	160	25-134			
Exlin	0.170	0.050	ug/L	0.100	BLDG	170	25-134			W
Exlin aldehyde	0.110	0.050	ug/L	0.100	BLDG	110	25-134			
gamma-BHC (Lindane)	0.090	0.050	ug/L	0.100	BLDG	60.0	25-134			
Heptachlor	0.110	0.050	ug/L	0.100	BLDG	110	25-134			
Heptachlor epoxide	0.110	0.050	ug/L	0.100	BLDG	110	25-134			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organohalide Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: BCD0289 - BCD0300										
Main: Spike (BCD0289-M01)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
Methoxychlor	0.200	0.050	ug/L	0.100	BLDG	200	25-134			N
Sum PCMH	0.130		ug/L	0.200		65.0	18-112			
Sum OCB	0.190		ug/L	0.200		95.0	27-131			
Main: Spike (BCD0289-M02)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
PCB as Aroclor 1254	2.31	0.200	ug/L	1.00	BLDG	231	45-100			N
PCB as Aroclor 1260	0.610	0.200	ug/L	1.00	BLDG	61.0	60-120			
Sum OCB	0.185		ug/L	0.200		92.5	38-108			
Sum PCMH	0.155		ug/L	0.200		77.5	54-103			
Main: Spike Dup (BCD0289-M03)										
Source: 1808176-01 Prepared: 04/09/2019 Analyzed: 04/12/2019										
4'-DDE	0.160	0.050	ug/L	0.100	BLDG	160	25-134	20.7	30	N, P
4'-DDD	0.180	0.050	ug/L	0.100	BLDG	180	25-134	18.4	30	N
4'-DDT	0.150	0.050	ug/L	0.100	BLDG	150	25-134	22.2	30	N, P
Aroclor	0.710	0.200	ug/L	0.100	BLDG	710	25-134	25.0	30	
alpha-BHC	0.115	0.050	ug/L	0.100	BLDG	115	25-134	6.52	30	
beta-BHC	0.250	0.050	ug/L	0.100	BLDG	250	25-134	12.8	30	N
gamma-BHC	0.090	0.050	ug/L	0.100	BLDG	90.0	25-134	11.8	30	
Delta	0.170	0.050	ug/L	0.100	BLDG	170	25-134	18.4	30	N
Endosulfan I	0.150	0.050	ug/L	0.100	BLDG	150	25-134	14.2	30	N
Endosulfan II	0.160	0.050	ug/L	0.100	BLDG	160	25-134	11.8	30	N
Endosulfan sulfate	0.120	0.050	ug/L	0.100	BLDG	120	25-134	19.2	30	
Exrin	0.190	0.050	ug/L	0.100	BLDG	190	25-134	11.1	30	N
Exrin atoxylate	0.130	0.050	ug/L	0.100	BLDG	130	25-134	16.7	30	
gamma-BHC (Lindane)	0.090	0.050	ug/L	0.100	BLDG	90.0	25-134	11.8	30	
Heptachlor	0.120	0.050	ug/L	0.100	BLDG	120	25-134	8.70	30	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organics Analyzed and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch: BCD0289 - M5015C

Matrix Spike Dup (BCD0289-M5015)		Source: 1808176-01		Prepared: 04/09/2019 Analyzed: 04/12/2019						
Heptachlor epoxide	0.130	0.200	ug/L	0.100	BL00	130	25-134	16.7	20	
Methoxychlor	0.190	0.200	ug/L	0.100	BL00	190	25-134	16.5	20	M
Sum: TCMSX	0.190		ug/L	0.200		90.0	18-112			
Sum: DCB	0.190		ug/L	0.200		90.0	27-131			
Matrix Spike Dup (BCD0289-M502)		Source: 1808176-01		Prepared: 04/09/2019 Analyzed: 04/12/2019						
PCB as Aroclor 1018	1.52	0.200	ug/L	1.00	BL00	152	40-120	49.1	20	M, P
PCB as Aroclor 1260	0.755	0.200	ug/L	1.00	BL00	75.5	40-120	21.2	20	P
Sum: DCB	0.195		ug/L	0.200		97.5	30-105			
Sum: TCMSX	0.175		ug/L	0.200		87.5	30-105			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organizations Participates by OCECO - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch: B0000002 - B000001A										
Blank (B0000002-BLANK) Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,6-T	BL00	5.00	ug/kg							
2,4,6-TP (blow)	BL00	5.00	ug/kg							
2,4-D	BL00	5.00	ug/kg							
Diuron	BL00	5.00	ug/kg							
Pentachlorophenol	BL00	5.00	ug/kg							
Sum OCAs (Sum)	0.000		ug/kg	5.00		0.0	31-67			
LCB (B0000002-BL) Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,6-T	0.444	5.00	ug/kg	0.500		9.0	62-125			
2,4,6-TP (blow)	0.500	5.00	ug/kg	0.500		10.0	55-106			
2,4-D	0.111	5.00	ug/kg	0.500		2.2	57-114			
Diuron	0.500	5.00	ug/kg	0.500		10.0	53-111			
Pentachlorophenol	0.500	5.00	ug/kg	0.500		10.0	50-115			
Sum OCAs (Sum)	0.444		ug/kg	5.00		9.0	31-67			
Matrix Spike (B0000002-MS1) Source: 1904196401 Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,6-T	0.444	5.00	ug/kg	0.500	BL00	9.0	50-130			
2,4,6-TP (blow)	0.444	5.00	ug/kg	0.500	BL00	9.0	55-106			
2,4-D	0.000	5.00	ug/kg	0.500	BL00	0.0	57-114			
Diuron	0.500	5.00	ug/kg	0.500	BL00	10.0	50-130			nd
Pentachlorophenol	0.500	5.00	ug/kg	0.500	BL00	10.0	50-115			
Sum OCAs (Sum)	1.00		ug/kg	5.00		9.0	31-67			0
Matrix Spike (B0000002-MS2) Source: 1904196401 Prepared: 04/08/2019 Analyzed: 04/15/2019										
2,4,6-T	0.444	5.00	ug/kg	0.500	BL00	9.0	50-130			
2,4,6-TP (blow)	0.500	5.00	ug/kg	0.500	BL00	10.0	55-106			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Organics/Inorganics Analyzed by GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
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Batch: BCD0282 - 200211A

Matrix Spike (BCD0282-MS1)		Source: 1809196-01		Prepared: 04/08/2019 Analyzed: 04/15/2019						
2,4-D	0.596	5.00	ug/kg	0.596	BLOD	100	57-114			
Diuron	0.596	5.00	ug/kg	0.596	BLOD	100	60-130			
Permethrin/phenol	0.596	5.00	ug/kg	0.596	BLOD	99.0	50-115			
Sum OCAs (Sum)	1.00		ug/kg	1.17		90.0	31-67			S
Matrix Spike Two (BCD0282-MS2)		Source: 1809176-05		Prepared: 04/05/2019 Analyzed: 04/15/2019						
2,4,5-T	0.444	5.00	ug/kg	0.596	BLOD	80.0	50-130	0.00	20	
2,4,5-TP (Diuron)	0.550	5.00	ug/kg	0.550	BLOD	100	55-106	22.2	20	P
2,4-D	0.811	5.00	ug/kg	0.596	BLOD	110	57-114	20.0	20	
Diuron	0.588	5.00	ug/kg	0.596	BLOD	70.0	60-130	15.4	20	
Permethrin/phenol	0.444	5.00	ug/kg	0.596	BLOD	60.0	50-115	13.3	20	
Sum OCAs (Sum)	1.00		ug/kg	1.17		90.0	31-67			S
Matrix Spike One (BCD0282-MS3)		Source: 1809196-01		Prepared: 04/05/2019 Analyzed: 04/15/2019						
2,4,5-T	0.288	5.00	ug/kg	0.596	BLOD	70.0	50-130	13.3	20	
2,4,5-TP (Diuron)	0.444	5.00	ug/kg	0.550	BLOD	80.0	55-106	11.8	20	
2,4-D	0.811	5.00	ug/kg	0.596	BLOD	110	57-114	9.52	20	
Diuron	0.500	5.00	ug/kg	0.596	BLOD	90.0	60-130	10.6	20	
Permethrin/phenol	0.500	5.00	ug/kg	0.596	BLOD	90.0	50-115	0.00	20	
Sum OCAs (Sum)	0.833		ug/kg	1.17		79.0	31-67			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Monitored/Analyzed by: GC/MSD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	NRSD	NRSD Limits	RPD	RPD Limit	Qual
Batch: BCD0020 - SWM11										
Blank (BCD0020-BLANK) Prepared & Analyzed: 04/09/2019										
1,2-Dibromochloroethane (DBCE)	BL000	0.010	ug/L							
1,2,3-Trichloropropane	BL000	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BL000	0.010	ug/L							
LCA (BCD0020-LCA) Prepared & Analyzed: 04/09/2019										
1,2-Dibromochloroethane (DBCE)	0.116	0.010	ug/L	0.150		66.2	65-135			
1,2,3-Trichloropropane	0.171	0.010	ug/L	0.250		68.4	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.185	0.010	ug/L	0.250		73.1	65-135			
LCS (ug) (BCD0020-LCS) Prepared & Analyzed: 04/09/2019										
1,2-Dibromochloroethane (DBCE)	0.106	0.010	ug/L	0.250		90.3	65-135	4.59	20	
1,2,3-Trichloropropane	0.180	0.010	ug/L	0.250		71.9	65-135	4.96	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.164	0.010	ug/L	0.250		73.5	65-135	0.527	20	
Main Spike (BCD0020-MS1) Source: 1809176-01 Prepared & Analyzed: 04/09/2019										
1,2-Dibromochloroethane (DBCE)	0.174	0.010	ug/L	0.248	BL000	70.2	65-135			
1,2,3-Trichloropropane	0.200	0.010	ug/L	0.248	BL000	61.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.164	0.010	ug/L	0.248	BL000	66.0	65-135			
Main Spike (ug) (BCD0020-MS2) Source: 1809176-01 Prepared & Analyzed: 04/09/2019										
1,2-Dibromochloroethane (DBCE)	0.172	0.010	ug/L	0.248	BL000	69.9	65-135	1.16	20	
1,2,3-Trichloropropane	0.217	0.010	ug/L	0.248	BL000	67.6	65-135	7.07	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.178	0.010	ug/L	0.248	BL000	71.7	65-135	0.20	20	

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Qual
Batch BCD0244 - No Prep Wet Chem										
Blank (BCD0244-BLK1)				Prepared & Analyzed: 04/08/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCD0244-BS1)				Prepared & Analyzed: 04/08/2019						
Sulfide	4.54	1	mg/L	5.00		90.8	90-120			
LCS Dup (BCD0244-BS1)				Prepared & Analyzed: 04/08/2019						
Sulfide	5.14	1	mg/L	5.00		104	80-120	13.4	20	
Matrix Spike (BCD0244-MS1)				Source: 1808176-01 Prepared & Analyzed: 04/08/2019						
Sulfide	5.85	1.00	mg/L	5.00	BLOD	117	75-125			
Matrix Spike Dup (BCD0244-MS1)				Source: 1808176-01 Prepared & Analyzed: 04/08/2019						
Sulfide	4.95	1.00	mg/L	5.00	BLOD	99.0	75-125	16.3	20	
Batch BCD0442 - No Prep Wet Chem										
Blank (BCD0442-BLK1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	BLOD	0.01	mg/L							
LCS (BCD0442-BS1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.24	0.01	mg/L	0.250		95.2	80-120			
LCS Dup (BCD0442-BS1)				Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.23	0.01	mg/L	0.250		92.8	80-120	1.74	20	
Matrix Spike (BCD0442-MS1)				Source: 1808176-01 Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.23	0.01	mg/L	0.250	BLOD	91.1	80-120			

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
 Client Site I.D.: Laurel Valley Center Sanitary Landfill (Colpeper)
 Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BCD0462 - No. Dup. Wet Chem										
Matrix Spike (BCD0462-W50)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	93.2	80-120			
Matrix Spike Dup (BCD0462-W50-1)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	93.8	80-120	1.82	20	
Matrix Spike Dup (BCD0462-W50-2)	Source: 1808199-45			Prepared: 04/11/2019 Analyzed: 04/12/2019						
Cyanide	0.25	0.01	mg/L	0.250	BLOD	98.0	80-120	6.03	20	

Certificate of Analysis

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Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/7000 Surface Methods			Preparation Method	EPA200.2/R2.8	
1900177-01	50.0 mL / 50.0 mL	SW6201C	BCD0169	SCD0236	AD90027
1900177-02	50.0 mL / 50.0 mL	SW6201C	BCD0169	SCD0236	AD90027
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 8000/7000 Surface Methods			Preparation Method	EPA200.8 R5.4	
1900177-01	50.0 mL / 50.0 mL	SW6200A	BCD0171	SCD0308	AD90035
1900177-02	50.0 mL / 50.0 mL	SW6200A	BCD0171	SCD0308	AD90035
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method	No Prep Wet Chem	
1900177-01	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
1900177-02	6.00 mL / 6.00 mL	SW9215	BCD0244	SCD0340	
1900177-01	6.00 mL / 6.00 mL	SW9012B	BCD0462	SCD0471	AD90062
1900177-02	6.00 mL / 6.00 mL	SW9012B	BCD0462	SCD0471	AD90062
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semi-volatile Organic Compounds by GC/MS			Preparation Method	SW8219C	
1900177-01	940 mL / 1.00 mL	SW8219C	BCD0168	SCD0262	AD90108
1900177-02	940 mL / 1.00 mL	SW8219C	BCD0168	SCD0262	AD90108
1900177-01	940 mL / 1.00 mL	SW8201B	BCD0260	SCD0273	AD90148
1900177-01	940 mL / 1.00 mL	SW8201A	BCD0260	SCD0274	AD90148
1900177-02	1000 mL / 1.00 mL	SW8201B	BCD0260	SCD0274	AD90082
1900177-02	1000 mL / 1.00 mL	SW8201A	BCD0260	SCD0275	AD90082

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Date Issued: 4/16/2019 4:54:45PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatiles Organic Compounds by GC/MS					
			Preparation Method	SW8008	
19C0177-01	4.00 mL / 0.05 mL	SW8008	SCD0039	SCD0040	AC00014
19C0177-02	4.00 mL / 0.05 mL	SW8008	SCD0039	SCD0041	AC00014
19C0177-03	4.00 mL / 0.05 mL	SW8008	SCD0039	SCD0042	AC00014
Metals (Total) by EPA 8000/1000 Series Methods					
			Preparation Method	SW1632a	
19C0177-01	20.0 mL / 20.0 mL	SW1632a	SCD0039	SCD0043	AC00008
19C0177-02	20.0 mL / 20.0 mL	SW1632a	SCD0039	SCD0044	AC00008
Micro-extractables by GC/ECD					
			Preparation Method	SW8011	
19C0177-01	60.0 mL / 2.00 mL	SW8011	SCD0293	SCD0307	AC00001
19C0177-02	60.0 mL / 2.00 mL	SW8011	SCD0293	SCD0307	AC00001
19C0177-03	60.0 mL / 2.00 mL	SW8011	SCD0293	SCD0307	AC00001
Organochlorine Herbicides by GC/ECD					
			Preparation Method	SW8151A	
19C0177-01	300 g / 5.00 mL	SW8151A	SCD0263	SCD0320	AC00007
19C0177-02	300 g / 5.00 mL	SW8151A	SCD0263	SCD0320	AC00007

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Certified Analyses included in this Report

Analyte	Certifications
EM610C in Non-Potable Water	
Barium	VELAPWDEP
Beryllium	VELAPWDEP
Cadmium	VELAPWDEP
Chromium	VELAPWDEP
Cobalt	VELAPWDEP
Copper	VELAPWDEP
Lead	VELAPWDEP
Nickel	VELAPWDEP
Selenium	VELAPWDEP
Silver	VELAPWDEP
Tin	VELAPWDEP
Titanium	VELAPWDEP
Zinc	VELAPWDEP
EM630A in Non-Potable Water	
Antimony	VELAPNC.WDEP
Arsenic	VELAPWDEP
Thallium	VELAPWYDEP
EM7470A in Non-Potable Water	
Mercury	VELAPNC.WDEP
EM8211 in Non-Potable Water	
1,2-Dibromoethane (DEE)	VELAPNC
1,2,3-Trichloropropane	VELAPNC
1,3-Dibromo-3-chloropropane (DBCP)	VELAPNC
EM8091B in Non-Potable Water	
4,4'-DDD	NC. VELAPWDEP

Certificate of Analysis

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 Submitted To: Jake White

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Certified Analyses included in this Report

Analyte	Certification
1,1-DCE	NC,VELAP,WVDEP
1,1-DOT	NC,VELAP,WVDEP
Atrix	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Erdin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
EMBTGA in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP
PCB as Aroclor 1260	VELAP,NC,WVDEP
EMBTGA in Soils	
2,4,5-T	NC,VELAP

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Certified Analyses included in this Report

Analyte	Certifications
2,4,6-TP (Silox)	NC,VELAP
2,4-D	NC,VELAP
Creosol	NC,VELAP
Pentachlorophenol	NC,VELAP
EMENDS in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropane	NC,VELAP,WVDEP
1,2-Trichloroethane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloroethane	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MIBK)	NC,VELAP,WVDEP
2-Hexanone (MIBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
Air acetone	NC, VELAP, WYDEP
Benzene	NC, VELAP, WYDEP
Bromochloromethane	NC, VELAP, WYDEP
Bromodichloromethane	NC, VELAP, WYDEP
Bromobenzene	NC, VELAP, WYDEP
Bromomethane	NC, VELAP, WYDEP
Carbon disulfide	NC, VELAP, WYDEP
Carbon tetrachloride	NC, VELAP, WYDEP
Chlorobenzene	NC, VELAP, WYDEP
Chloroethane	NC, VELAP, WYDEP
Chloroform	NC, VELAP, WYDEP
Chloromethane	NC, VELAP, WYDEP
Chloroacetylene	NC, VELAP, WYDEP
cis-1,2-Dichloroethylene	NC, VELAP, WYDEP
cis-1,3-Dichloropropene	NC, VELAP, WYDEP
Dibromochloromethane	NC, VELAP, WYDEP
Dibromomethane	NC, VELAP, WYDEP
Dichlorodifluoromethane	NC, VELAP, WYDEP
Ethyl methacrylate	NC, VELAP, WYDEP
Ethylbenzene	NC, VELAP, WYDEP
Hexachlorobutadiene	NC, VELAP, WYDEP
Iodomethane	NC, VELAP, WYDEP
Isobutyl Alcohol	NC, VELAP, WYDEP
m,p-Xylenes	NC, VELAP, WYDEP
Methacrylonitrile	NC, VELAP, WYDEP
Methyl methacrylate	NC, VELAP, WYDEP
Methylene chloride	NC, VELAP, WYDEP
o-Xylene	NC, VELAP, WYDEP

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Certified Analyses included in this Report

Analyte	Certification
Propionitrile	NC, VELAP, WYDEP
Styrene	NC, VELAP, WYDEP
Tetrachloroethylene (PCE)	NC, VELAP, WYDEP
Toluene	NC, VELAP, WYDEP
trans-1,2-Dichloroethylene	NC, VELAP, WYDEP
trans-1,3-Dichloropropene	NC, VELAP, WYDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WYDEP
Trichloroethylene	NC, VELAP, WYDEP
Trichlorofluoromethane	NC, VELAP, WYDEP
Vinyl acetate	NC, VELAP, WYDEP
Vinyl chloride	NC, VELAP, WYDEP
Xylenes, Total	NC, VELAP, WYDEP
EMPTIES in Non-Potable Water	
1,2,4,5-Tetrachlorobenzene	NC, VELAP, WYDEP
1,3,5-Trinitrobenzene	NC, VELAP, WYDEP
1,3-Dinitrobenzene	NC, VELAP, WYDEP
1,4-Naphthoquinone	NC, VELAP, WYDEP
1-Naphthylamine	NC, VELAP, WYDEP
1,1,1,1-Tetrachloroethane	NC, VELAP, WYDEP
2,4,5-Trichlorophenol	NC, VELAP, WYDEP
2,4,6-Trichlorophenol	NC, VELAP, WYDEP
2,4-Dichlorophenol	NC, VELAP, WYDEP
2,4-Dimethylphenol	NC, VELAP, WYDEP
2,4-Dinitrophenol	NC, VELAP, WYDEP
2,4-Dinitrotoluene	NC, VELAP, WYDEP
2,6-Dichlorophenol	NC, VELAP, WYDEP
2,6-Dinitrotoluene	NC, VELAP, WYDEP
2-Acetylaminofluorene	NC, VELAP, WYDEP

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
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Certified Analyses included in this Report

Analyte	Certification
1-Chloronaphthalene	NC, VELAP, WYDEP
1-Chlorophenol	NC, VELAP, WYDEP
2-Methylnaphthalene	NC, VELAP, WYDEP
2-Naphthylamine	NC, VELAP, WYDEP
2-Nitroaniline	NC, VELAP, WYDEP
2-Nitrophenol	NC, VELAP, WYDEP
3,3'-Dichlorobenzidine	NC, VELAP, WYDEP
3,3'-Dimethylbenzidine	NC, VELAP, WYDEP
3-Methylcholanthrene	NC, VELAP, WYDEP
3-Nitroaniline	NC, VELAP, WYDEP
4,8-Di-ortho-2-naphthol	NC, VELAP, WYDEP
4-Aminobiphenyl	NC, VELAP, WYDEP
4-Bromophenyl phenyl ether	NC, VELAP, WYDEP
4-Chloroaniline	NC, VELAP, WYDEP
4-Chlorophenyl phenyl ether	NC, VELAP, WYDEP
4-Nitroaniline	NC, VELAP, WYDEP
4-Nitrophenol	NC, VELAP, WYDEP
5-Nitro-o-toluidine	NC, VELAP, WYDEP
7,7,8-Trimethylfluorene (a) anthracene	NC, VELAP, WYDEP
Acenaphthene	NC, VELAP, WYDEP
Acenaphthylene	NC, VELAP, WYDEP
Acetophenone	NC, VELAP, WYDEP
Anthracene	NC, VELAP, WYDEP
Benz(a)anthracene	NC, VELAP, WYDEP
Benz(a)pyrene	NC, VELAP, WYDEP
Benz(b)fluoranthene	NC, VELAP, WYDEP
Benz(g,h,i)perylene	NC, VELAP, WYDEP
Benz(k)fluoranthene	NC, VELAP, WYDEP

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Certified Analyses included in this Report

Analyte	Certification
Benzyl alcohol	NC, NELAP, WYDEP
Is (2-Chloroethyl) methane	NC, NELAP, WYDEP
Is (2-Chloroethyl) ether	NC, NELAP, WYDEP
1,2-Dichloro (1-chloropropane)	NC, NELAP, WYDEP
Is (2-Ethylhexyl) phthalate	NC, NELAP, WYDEP
Butyl benzyl phthalate	NC, NELAP, WYDEP
Chlorobenzene	NC, NELAP, WYDEP
Chrysene	NC, NELAP, WYDEP
Dialate	NC, NELAP, WYDEP
Dibenz (a,h) anthracene	NC, NELAP, WYDEP
Dibenzofuran	NC, NELAP, WYDEP
Diethyl phthalate	NC, NELAP, WYDEP
Dimethyl maleate	NC, NELAP, WYDEP
Dimethyl phthalate	NC, NELAP, WYDEP
Di-n-butyl phthalate	NC, NELAP, WYDEP
Dioctyl phthalate	NC, NELAP, WYDEP
Diphenylamine	NC, NELAP, WYDEP
Dioxin	NC, NELAP, WYDEP
Ethyl methanesulfonate	NC, NELAP, WYDEP
Ethyl parathion	NC, NELAP, WYDEP
Famphor	NC, NELAP, WYDEP
Fluoranthene	NC, NELAP, WYDEP
Fluorene	NC, NELAP, WYDEP
Hexachlorobenzene	NC, NELAP, WYDEP
Hexachlorobutadiene	NC, NELAP, WYDEP
Hexachlorocyclopentadiene	NC, NELAP, WYDEP
Hexachloroethane	NC, NELAP, WYDEP
Hexachloropropene	NC, NELAP, WYDEP

Certificate of Analysis

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Date Issued: 4/16/2019 4:54:45PM

Certified Analyses included in this Report

Analyte	Certification
Isobutyl (1,2,3-oxo) pyrene	NC, VELAP, WYDEP
Isobutyl	NC, VELAP, WYDEP
Isophrene	NC, VELAP, WYDEP
Isosafrole	NC, VELAP, WYDEP
Ketone	NC, VELAP, WYDEP
m-p-Cresol	NC, VELAP, WYDEP
Methoxyflene	NC, VELAP, WYDEP
Methyl methanesulfonate	NC, VELAP, WYDEP
Methyl parathion	NC, VELAP, WYDEP
Naphthalene	NC, VELAP, WYDEP
Nitrobenzene	NC, VELAP, WYDEP
n-Nitrosodibutylamine	NC, VELAP, WYDEP
n-Nitrosodimethylamine	NC, VELAP, WYDEP
n-Nitroso-n-butylamine	NC, VELAP, WYDEP
n-Nitroso-n-propylamine	NC, VELAP, WYDEP
n-Nitrosodiphenylamine	NC, VELAP, WYDEP
n-Nitrosomethylcetylamine	NC, VELAP, WYDEP
n-Nitrosopiperidine	NC, VELAP, WYDEP
n-Nitrosopyrrolidine	NC, VELAP, WYDEP
o,o'-Diethyl phosphorothioate	NC, VELAP, WYDEP
o,o'-Diethyl o-2-pyridyl phosphorothioate	NC, VELAP, WYDEP
o-m-p-Cresol	VELAP, WYDEP
o-Cresol	NC, VELAP, WYDEP
o-Toluidine	NC, VELAP, WYDEP
p-(Dimethylamino) azobenzene	NC, VELAP, WYDEP
p-Chloro-m-cresol	NC, VELAP, WYDEP
Pentachlorobenzene	NC, VELAP, WYDEP
Pentachloronitrobenzene (quinazone)	NC, VELAP, WYDEP

Certificate of Analysis

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Certified Analyses included in this Report

Analyte	Certification
Phenolate	NC VELAP WYDEP
Phenanthrene	NC VELAP WYDEP
Phenol	NC VELAP WYDEP
Phenols	NC VELAP WYDEP
p-Phenylenediamine	NC VELAP WYDEP
Pyrene	NC VELAP WYDEP
Sulfide	NC VELAP WYDEP
SW9012B in Non-Potable Water	
Cyanide	VELAP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MDDOE	Maryland DE Drinking Water	341	12/31/2019
VELAP Certificate #4337	NELAC-Virginia Certificate #10074	46002-1	06/14/2019

Certificate of Analysis

Client Name: LaBella Associates, D.P.C.
Client Site I.D.: Laurel Valley Center Sanitary Landfill (Cupeper)
Submitted To: Jake White

Date Issued: 4/16/2019 4:54:45PM

Qualifiers and Definitions

- C Continuing calibration verification response for this analyte is outside specifications.
- E Estimated concentration, outside calibration range
- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- P Duplicate analysis does not meet the acceptance criteria for precision
- S Surrogate recovery was outside acceptance criteria

RPD Relative Percent Difference

Qual Qualifier

-RE Denotes sample was re-analyzed

LOD Limit of Detection

BLOD Below Limit of Detection

LOQ Limit of Quantitation

DF Dilution Factor

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the publisher pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Anomers 1016, 1021, 1032, 1048, 1054, 1066, 1082, and 1098.



1941 REYNOLT ROAD
 RICHMOND, VIRGINIA 23237
 (804) 358-8295 PHONE
 (804)358-8297 FAX

Chain of Custody
 Form # C0024
 Rev. 1.0
 Effective Feb 14, 2019

CHAIN OF CUSTODY

PAGE _____ OF _____

COMPANY NAME: Joyce Engineering, Inc.	INVOICE TO: Culpeper Environmental Services	PROJECT NAME/Quote #: LVCSLP Compliance Wells
CONTACT: Jake White	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Center Sanitary Landfill (Culpeper)
ADDRESS: 1804 Chewy Lane, Richmond, VA 23220	INVOICE ADDRESS: 111 West Gate Street, Suite 101, Culpeper, VA 22024	PROJECT NUMBER: Job No. 2181950.00.01
PHONE #: (804) 358-8295	INVOICE PHONE #: (840) 727-2808	P.O. #:
FAX #: (804) 358-4282	EMAIL: jwhite@joyceengineering.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Is sample from a chlorinated supply? YES NO PWS I.D. #:

SAMPLER NAME (PRINT): *M. Howard* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: 10 Days

Matrix Codes: WW-Waste Water/Biomass Water GW-Ground Water DW-Drinking Water S-Solid/Sludge OI-Organic Air/AE-WP-Water OI-Other _____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)						COMMENTS
											VERMIN TM 1.1B	TM 1.1B VOC					
1) Equipment Blank	X					4/3/19	0900			1	X						
2) Field Blank	X					4/3/19	0900			1	X						
3) Trip Blank						4/3/19	1500			1		X					
4)																	
5)																	
6)																	
7)																	
8)																	
9)																	
10)																	

Preservative Codes: Inhibitor /
 Copper/Sulfate Acid / B-Sulfate /
 Bi-Sulfate / Hydroxide / Antioxidant
 Add / Other / None / Blank
 Includes B-Sulfate

M. Howard
[Signature]

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECK or PUMP RATE (L/min)

RECEIVED: <i>[Signature]</i> DATE / TIME: 4/3/19 1352	RECEIVED: <i>[Signature]</i> DATE / TIME: 4/3/19 1352	QC Data Package	LAB USE ONLY	COOLER TEMP 4.2 °C
RECEIVED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level I <input type="checkbox"/>	LaBella Associates, 19D0177 Laurel Valley (Culpeper) Blank Sar Recd: 04/03/2019 Due: 04/17/2019	<div style="border: 1px solid black; padding: 2px;">Page 91 of 93</div>
RECEIVED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level II <input checked="" type="checkbox"/>		
RECEIVED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level III <input type="checkbox"/>		
RECEIVED: _____ DATE / TIME: _____	RECEIVED: _____ DATE / TIME: _____	Level IV <input type="checkbox"/>		



Sample Preservation Log

Sample Preservation Log
Form # F1301
Rev # 9.0
Effective May 13, 2008
Page 1 of 1

Order ID: 19D8177

Date Performed: 04/23/19

Analyst Performing Check: RL

Sample ID	Container	Metals		Cyanide	Sulfide	Ammonia		TRN	Phos. Tot		NO ₂ -NO ₃		DRO			Pesticide (001700000)		SVOC (020.00170000)		CPI		Pesticide (001) / SVOC(020)						
		As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	As Recv'd	pH as Received	Final pH (ft adjust.)	Res.Cl as Received	Res.Cl P/A (ft adjust.)	Res.Cl as Received	Res.Cl P/A (ft adjust.)	pH as Received	Adjusted final pH	pH as Received	Final pH (ft adjust.)	pH as Received	Final pH (ft adjust.)	pH as Received	Final pH (ft adjust.)	
		< 2	Other	Present	Absent	Present	Absent	Present	Absent	Present	Absent	Present	Absent	< 2	Other	Present	Absent	Present	Absent	< 2	Other	Present	Absent	< 2	Other	Present	Absent	
01	C																											
01	D																											
01	E																											
01	F																											
02	C																											
02	D																											
02	E																											
02	F																											

NaOH ID: _____ HNO₃ ID: _____ CrVI preserved date/time: _____ Analyst Initials: _____
 * pH must be adjusted between 9.3 - 9.7
 H₂SO₄ ID: _____ Na₂S₂O₃ ID: _____ Buffer Sol'n ID: _____
 HCL ID: _____ Na₂SO₃ ID: _____ 1N NaOH ID: _____ 5N NaOH: _____

**W.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

Certificate of Analysis

Client Name: **LaBella Associates, D.P.C.**
 Client Site I.D.: **Laurel Valley Center Sanitary Landfill (Cupeper)**
 Submitted To: **Jake White**

Date Issued: **4/16/2019 4:54:45PM**

Sample Conditions Checklist

Sample Received at	4/16/19
Was area sampled isolated?	Yes
Were fumes from work? If so, were they removed first?	No
Are the correct labels filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature listed on representative samples within acceptable limits as required on box, and security label?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analytes requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8211, EPA8204, EPA8200, EPA8204, EPA8215 GR0, EPA8221, EPA8204, and R04-175.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but lab preservation may delay analysis.	Yes



Air Water & Soil Laboratories, Inc.
1941 Raymont Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detectable Report

Date Issued:

Client Name:

Client Site ID:

Submitted To:

Laboratory Sample ID:

Client Sample ID:

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
-----------	-----------	------------------	----------------	------	-----	-----	-------------	-------

There are no reportable results for target analytes in this report.

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



12411 Regent Road • Richmond, Virginia 23237 • Tel: (804) 309-6290 Fax: (804) 309-6297

Certificate of Analysis

Final Report

Laboratory Order ID: 1801338

Client Name: LaBella Associates, D.P.C.
1804 Ownby Lane
Richmond, VA 23220

Date Received: April 26, 2019 13:36

Date Issued: May 1, 2019 16:33

Project Number: 2181930

Submitted To: Jake White

Purchase Order:

Client Site I.D.: Culpeper

Enclosed are the results of analyses for samples received by the laboratory on 04/26/2019 13:36. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Laboratory Manager

End Notes

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been qualified for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





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Certificate of Analysis

Final Report

Client Name: **Lullbills Associates, D.P.C.** Date Issued: **5/1/2019 16:33**
1004 Cherry Lane
Richmond VA, 23229
Submitted To: **Jake Yilder** Project Number: **2181930**
Client Use ID: **Casper** Purchase Order:

ANALYTICAL REPORT FOR SAMPLES

Laboratory Order ID: 1901228

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FD-48	1901228-01	Ground Water	04/25/2019 12:50	04/26/2019 13:36
MA-79	1901228-02	Ground Water	04/25/2019 11:10	04/26/2019 13:36



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Certificate of Analysis

Final Report

Client Name:	Lalbeta Associates, D.P.C. 1604 Ownby Lane Richmond VA, 23220	Date Issued:	5/1/2019 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Site I.D.:	Culpaper	Purchase Order:	

Laboratory Order ID: 1901228

Analytical Results

Sample I.D. PZ-4E	Laboratory Sample ID: 1901228-01
Grab Date/Time: 04/25/2019 12:50	Field pH:
Field Residual Cl:	

Parameter	Samp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Metals (Total) by EPA 200 Series Methods									
Mercury	01	EPA245.1 R3.0	0.0009 mg/L		0.0002	1	04/30/19 10:00	04/30/19 12:57	WVVL



1847 Raymond Road • Richmond, Virginia 23218 • Tel: (804) 358-8288 Fax: (804) 358-8287

Certificate of Analysis

Final Report

Client Name:	Lafella Associates, D.P.C. 1604 Chenby Lane Richmond VA, 23135	Date Issued:	5/1/2019 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Date I.D.:	Culpeper	Purchase Order:	

Laboratory Order ID: 1901228

Sample I.D.	M01.1H	Laboratory Sample ID:	1901228-02
Grab Date/Time:	04/25/2019 11:19	Field pH:	
Field Residual Cl:			

Parameter	Comp ID	Method	Result	Qual	Reporting Limit	D.F.	Sample Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GCMS									
1,1-Dichloroethane	02	SW6200B	3.28 ug/L		1.00	1	04/26/19 16:21	04/26/19 16:21	KCB
Sum: 1,2-Dichloroethane- <i>m</i> (Sum)	02	SW6200B	88.4 %		75-120		04/26/19 16:21	04/26/19 16:21	KCB
Sum: 4-Bromofluorobenzene (Sum)	02	SW6200B	87.7 %		75-120		04/26/19 16:21	04/26/19 16:21	KCB
Sum: 1-Bromo-2-fluoromethane (Sum)	02	SW6200B	88.8 %		75-130		04/26/19 16:21	04/26/19 16:21	KCB
Sum: Toluene- <i>m</i> (Sum)	02	SW6200B	88.8 %		75-120		04/26/19 16:21	04/26/19 16:21	KCB

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS					
SW6200B	0.00 mL / 0.00 mL	SW6200B	SCD0995	SCD0995	AD90091
Metals (Total) by EPA 200 Series Methods					
1901228-01	20.0 mL / 20.0 mL	EPA245.1 R3.0	SCD0995	SCD1015	AD90143



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Certificate of Analysis

Final Report

Client Name:	Lafelle Associates, D.P.C. 1604 Chenby Lane Richmond VA, 23225	Date Issued:	5/1/2019 16:33
Submitted To:	Jake White	Project Number:	2181900
Client Date I.C.T.:	Copper	Purchase Order:	

Metals (Total) by EPA 200 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%RSD	%RSD Limits	MPD	MPD Limit	Dist
Batch BCD0998 - SW2470A										
<hr/>										
Blank (BCD0998-BLK1)				Prepared & Analyzed: 04/30/2019						
Mercury	<0.0002 mg/L	0.0002	mg/L							
LCB (BCD0998-BL1)				Prepared & Analyzed: 04/30/2019						
Mercury	0.0024 mg/L	0.0020	mg/L	0.00250 mg/L	97.9	85-115				
LCB Dup (BCD0998-BL01)				Prepared & Analyzed: 04/30/2019						
Mercury	0.0024 mg/L	0.0020	mg/L	0.00250 mg/L	100	85-115	2.34	20		
Matrix Spike (BCD0998-M51)				Source: 1801118-01			Prepared & Analyzed: 04/30/2019			
Mercury	0.0024 mg/L	0.0020	mg/L	0.00250 <0.0002 mg/L	105	70-130				
Matrix Spike (BCD0998-M52)				Source: 1801146-08			Prepared & Analyzed: 04/30/2019			
Mercury	0.0024 mg/L	0.0020	mg/L	0.00250 <0.0002 mg/L	98.9	70-130				
Matrix Spike Dup (BCD0998-M502)				Source: 1801146-08			Prepared & Analyzed: 04/30/2019			
Mercury	0.0024 mg/L	0.0020	mg/L	0.00250 <0.0002 mg/L	96.7	70-130	2.29	20		



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Certificate of Analysis
Final Report

Client Name:	Labella Associates, D.P.C. 1604 Ownby Lane Richmond VA, 23220	Date Issued:	01/20/19 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Site I.D.:	Culpaper	Purchase Order:	

Volatile Organic Compound: by GCMS - Quality Control
Air Water & Soil Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Qual
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Batch BCD0965 - SW5030B

Blank (BCD0965-BLK1)

Prepared & Analyzed: 04/28/2019

1,1-Dichloroethane	41.00 ug/L	1.00	ug/L							
Sum: 1,2-Dichloroethane-d4 (Sum)	43.3		ug/L	50.0		86.7	70-120			
Sum: 4-Bromofluorobenzene (Sum)	48.8		ug/L	50.0		97.6	75-130			
Sum: Dibromofluoromethane (Sum)	43.0		ug/L	50.0		86.0	70-130			
Sum: Toluene-d8 (Sum)	46.0		ug/L	50.0		92.0	70-130			

LCS (BCD0965-001)

Prepared & Analyzed: 04/28/2019

1,1-Dichloroethane	54.8 ug/L	1	ug/L	50.0 ug/L	109	70-130				
Sum: 1,2-Dichloroethane-d4 (Sum)	59.7		ug/L	50.0 ug/L	119.4	70-130				
Sum: 4-Bromofluorobenzene (Sum)	67.8		ug/L	50.0 ug/L	135.6	75-130				
Sum: Dibromofluoromethane (Sum)	64.8		ug/L	50.0 ug/L	129.6	70-130				
Sum: Toluene-d8 (Sum)	66.7		ug/L	50.0 ug/L	133.4	70-130				

Spikes (BCD0965-SUP1)

Source: 19D1908-01

Prepared & Analyzed: 04/28/2019

1,1-Dichloroethane	<10.0 ug/L	10.0	ug/L	<10.0 ug/L	NA	NA				
Sum: 1,2-Dichloroethane-d4 (Sum)	88.0		ug/L	100.0 ug/L	88.0	70-130				
Sum: 4-Bromofluorobenzene (Sum)	100.0		ug/L	100.0 ug/L	100	75-130				
Sum: Dibromofluoromethane (Sum)	88.0		ug/L	100.0 ug/L	88.0	70-130				
Sum: Toluene-d8 (Sum)	88.0		ug/L	100.0 ug/L	88.0	70-130				

Matrix Spike (BCD0965-MS1)

Source: 19D1908-01

Prepared & Analyzed: 04/28/2019

1,1-Dichloroethane	49.0 ug/L	1	ug/L	50.0 <1 ug/L	98.0	70-130				
Sum: 1,2-Dichloroethane-d4 (Sum)	43.9		ug/L	50.0 ug/L	87.7	70-130				
Sum: 4-Bromofluorobenzene (Sum)	48.4		ug/L	50.0 ug/L	96.8	75-130				
Sum: Dibromofluoromethane (Sum)	44.0		ug/L	50.0 ug/L	88.0	70-130				
Sum: Toluene-d8 (Sum)	46.9		ug/L	50.0 ug/L	93.8	70-130				



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Certificate of Analysis

Final Report

Client Name:	Lalbeta Associates, D.P.C. 1604 Ownby Lane Richmond VA, 23220	Date Issued:	5/1/2019 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Site I.D.:	Culpaper	Purchase Order:	

Certified Analyses included in this Report

Analyte	Certifications
<i>EP8245.1 R3.0 in Non-Potable Water</i>	
Mercury	VELAP/NC, WDOEP
<i>SW8260B in Non-Potable Water</i>	
1,1-Dichloroethane	NC, VELAP/WDOEP

Code	Description	Lab Number	Expires
MDOE	Maryland DE Drinking Water	341	12/31/2019
VELAP	VELAC-Virginia Certificate #10246	46027	09/14/2019



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Certificate of Analysis

Final Report

Client Name:	Labella Associates, D.P.C. 1604 Chenby Lane Richmond VA, 23235	Date Issued:	5/1/2019 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Date I.D.:	Cuppaper	Purchase Order:	

Summary of Data-Qualifiers

- RPD Relative Percent Difference
- Qual Qualifiers
- R- Denotes sample was re-analyzed
- DF Dilution Factor. Please also see the Preparation Factor in the Analysis Summary section.
- TC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TC spectral match is reported when the pattern is at least 70% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCNs, Total Total PCNs are defined as the sum of reported hexanes (10-16), 1201, 1202, 1248, 1254, 1260, 1262, and 1268.



1845 BENTLEY ROAD
MCKINNEY, TEXAS 75069
8001 288-8800 PHONE
214-288-8801 FAX

Form # 1000
Rev. 04
March, 1st 19, 2010

CHAIN OF CUSTODY

Page 1 of 1

COMPANY NAME: <u>LaBella Associates</u>		PROJECT TO: <u>LaBella Assoc</u>		PROJECT # / IDENTIFICATION: <u>40559 130</u>																																																																																																																																																																																																																																																																																																																																																		
CONTACT: <u>John White</u>		REPORT CONTACT: <u>John White</u>		SITE NAME: <u>Calypso</u>																																																																																																																																																																																																																																																																																																																																																		
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FAX #:		E-MAIL: <u>John@labella.com</u>		Program/Project:																																																																																																																																																																																																																																																																																																																																																		
Is sample for compliance testing? YES NO		Is sample from a regulated source? YES NO		PMS ID #:																																																																																																																																																																																																																																																																																																																																																		
SAMPLER NAME (PRINT): <u>John White</u>		SAMPLER SIGNATURE: <u>John White</u>		Turn Around Time: <u>5 Days</u>																																																																																																																																																																																																																																																																																																																																																		
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1841 Raymond Road • Richmond, Virginia 23218 • Tel: (804) 358-8286 Fax: (804) 358-8287

Certificate of Analysis Final Report

Client Name:	Lafelle Associates, D.P.C. 1604 Chenby Lane Richmond VA, 23225	Date Issued:	5/12/09 16:33
Submitted To:	Jake White	Project Number:	2181930
Client Date I.D.:	Cuppaper	Purchase Order:	

Sample Conditions Checklist

Samples Received at:	S.F.P.C.
Were any samples returned?	AMS Courier
Were labels fully readable? (Yes, some may be unreadable)	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle seals agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

No trip blank received. Jake White notified via email. SE 4/26/09 14:18

Analysis Certificate Report

Date Issued: 11/5/2019 3:39:34PM

Client Name: Golden Associates, Inc
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Laboratory Sample ID: 19J0826-01 Client Sample ID: BW-03

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Chlorobenzene	01	SW82600	2.68		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW82600	0.71	J	0.40	1.00	1	ug/L
Methane	01	MSK175M	86.5		2.9	5.0	1	ug/L
Alkalinity	01	SM22 2320B-2011	94.0		5.0	5.0	1	mg/L
Chloride	01	EPA300.0 R2-1	81.4		0.5	1.0	1	mg/L
Sulfate	01	EPA300.0 R2-1	2.5		0.5	1.0	1	mg/L

Laboratory Sample ID: 19J0826-02 Client Sample ID: PZ-4E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	02	SW1470A	0.00265		0.00020	0.00020	1	mg/L
cis-1,2-Dichloroethylene	02	SW82600	1.07		0.40	1.00	1	ug/L
1,1,1-Trichloroethylene (TCE)	02	SW82600	0.50	J	0.40	1.00	1	ug/L
Trichloroethylene	02	SW82600	0.06	J	0.40	1.00	1	ug/L
Vinyl chloride	02	SW82600	1.58		0.50	0.50	1	ug/L
Methane	02RE1	MSK175M	2570		29.0	50.0	10	ug/L
Alkalinity	02	SM22 2320B-2011	22.0		5.0	5.0	1	mg/L
Chloride	02	EPA300.0 R2-1	2.4		0.5	1.0	1	mg/L

Analysis Detects Report

Client Name: Golden Associates, Inc.
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Laboratory Sample ID: 19L0020-03 Client Sample ID: SW-03

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	03	SM227 21088-2017	15.0		5.0	5.0	1	mg/L
Chloride	03	4500 Cl-02-1	1.9		0.5	1.0	1	mg/L
Nitrate as N	03	Color	0.320		0.110	0.150	1	mg/L
Nitrate-Nitrite as N	03001	SM227 4500-NO3-2017	0.32		0.10	0.10	1	mg/L

Laboratory Sample ID: 19L0020-01 Client Sample ID: SW-01

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	01	SW0010C	0.0208		0.0020	0.0040	1	ug/L
1,1-Dichloroethane	01	SW0200D	15.4	J	0.40	1.00	1	ug/L
1,2-Dichloropropane	01	SW0200D	0.01	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW0200D	4.00	J	0.40	1.00	1	ug/L
Benzene	01	SW0200D	1.02	J	0.40	1.00	1	ug/L
Chlorobenzene	01	SW0200D	3.27	J	0.40	1.00	1	ug/L
Chloroethane	01	SW0200D	2.17	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW0200D	10.7	J	0.40	1.00	1	ug/L
Trichloroethylene	01	SW0200D	1.12	J	0.40	1.00	1	ug/L
Vinyl chloride	01	SW0200D	4.01	J	0.40	0.50	1	ug/L

Analysis Detects Report

Client Name: Golden Associates, Inc.
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Laboratory Sample ID: 19J0833-02 Client Sample ID: MW-10

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cuclat	03	SW6200C	0.0245		0.0020	0.0040	1	mg/L
1,1-Dichloroethane	03	SW6200D	0.70	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW6200D	2.24		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW6200D	5.72		0.40	1.00	1	ug/L
Vinyl chloride	03	SW6200D	1.45		0.50	0.50	1	ug/L

Laboratory Sample ID: 19J0833-03 Client Sample ID: MW-1E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	03	SW6200D	2.86		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW6200D	1.78		0.40	1.00	1	ug/L
Benzene	03	SW6200D	0.62	J	0.40	1.00	1	ug/L
Chlorobenzene	03	SW6200D	0.62	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW6200D	24.5		0.40	1.00	1	ug/L
Trichloroethylene	03	SW6200D	3.26		0.40	1.00	1	ug/L
Vinyl chloride	03	SW6200D	2.00		0.50	0.50	1	ug/L

Laboratory Sample ID: 19J0833-04 Client Sample ID: MW-3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cuclat	04	SW6200C	0.0054	J	0.0020	0.0040	1	mg/L

Analysis Detects Report

Client Name: Golden Associates, Inc.
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Laboratory Sample ID: 19J0833-03

Client Sample ID: MW-5

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	05	SW6010C	0.111		0.0020	0.0040	1	mg/L
Hexane	05	SW6260D	0.93	J	0.40	1.00	1	ug/L
Chlorobenzene	05	SW6260D	2.38		0.40	1.00	1	ug/L

Laboratory Sample ID: 19J0833-04

Client Sample ID: MW-6

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	06	SW6010C	0.201		0.0020	0.0040	1	mg/L
1,4-Dichlorobenzene	06	SW6260D	5.50		0.40	1.00	1	ug/L
Acetone	06	SW6260D	31.8		1.00	10.0	1	ug/L
Benzene	06	SW6260D	0.08	J	0.40	1.00	1	ug/L
Chlorobenzene	06	SW6260D	3.53		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	06	SW6260D	2.08		0.40	1.00	1	ug/L
Toluene	06	SW6260D	1.05		0.30	1.00	1	ug/L

Laboratory Sample ID: 19J0833-07

Client Sample ID: MW-X1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	07	SW6010C	0.0067		0.0020	0.0040	1	mg/L
Chlorobenzene	07	SW6260D	3.06		0.40	1.00	1	ug/L
Chloroethane	07	SW6260D	8.71	J	0.30	1.00	1	ug/L



Analysis Detects Report

Client Name: Golden Associates, Inc.
 Client Site ID: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Laboratory Sample ID: 19J0894-01 Client Sample ID: MW-1F

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	01	SW8260D	1.95		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260D	0.51	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260D	13.2		0.40	1.00	1	ug/L
Trichloroethylene	01	SW8260D	1.38		0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260D	0.84		0.50	0.50	1	ug/L

Laboratory Sample ID: 19J0896-02 Client Sample ID: MW-1G

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	02	SW8260D	4.28		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	0.47	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	16.4		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260D	2.63		0.40	1.00	1	ug/L
Vinyl chloride	02	SW8260D	1.13		0.50	0.50	1	ug/L

Laboratory Sample ID: 19J0896-03 Client Sample ID: MW-1H

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	03	SW8260D	4.18		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260D	3.42		0.40	1.00	1	ug/L
Benzene	03	SW8260D	1.85		0.40	1.00	1	ug/L
Chlorobenzene	03	SW8260D	1.18		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260D	21.4		0.40	1.00	1	ug/L
Trichloroethylene	03	SW8260D	4.13		0.40	1.00	1	ug/L
Vinyl chloride	03	SW8260D	6.14		0.50	0.50	1	ug/L

Analysis Detects Report

Client Name: Golden Associates, Inc.
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/4/2019 3:39:34PM

Laboratory Sample ID: 19J0894-05

Client Sample ID: CLF-11

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Coliform	05	SM9219C	0.0658		0.0020	0.0040	1	mg/L
1,1-Dichloroethane	05	SM8060D	1.21		0.60	1.00	1	ug/L
1,1-Dichloroethylene	05	SM8060D	9.05		0.40	1.00	1	ug/L
Benzene	05	SM8060D	1.80		0.40	1.00	1	ug/L
Chloroethane	05	SM8060D	5.31		0.40	1.00	1	ug/L
Chloroethane	05	SM8060D	0.82	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SM8260D	4.73		0.40	1.00	1	ug/L
Trichloroethylene	05	SM8260D	0.89	J	0.40	1.00	1	ug/L
Vinyl chloride	05	SM8260D	0.50		0.50	0.50	1	ug/L

Laboratory Sample ID: 19J0896-06

Client Sample ID: CLF-15A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	06	SM8260D	4.07		0.60	1.00	1	ug/L
cis-1,2-Dichloroethylene	06	SM8260D	11.6		0.40	1.00	1	ug/L
Trichloroethylene	06	SM8260D	5.36		0.40	1.00	1	ug/L
Methane	06RE1	MSK175M	264		2.9	5.0	1	ug/L
Alkalinity	06	SM22 23208-2011	183		5.0	5.0	1	mg/L
Chloride	06	EPA300.0 R2.1	78.4		0.5	1.0	1	mg/L
Sulfate	06	EPA300.0 R2.1	3.6		0.5	1.0	1	mg/L

Analysis Detects Report

Client Name: Golden Associates, Inc.
Client Site ID: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Laboratory Sample ID: 192019-07

Client Sample ID: CLP-83

Parameter	Sample ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethene	BT	SM5010D	0.80	J	0.60	1.00	1	ug/L
cis-1,2-Dichloroethene	BT	SM5010D	0.63	J	0.40	1.00	1	ug/L
Alkalinity	BT	SM507 20086-2611	74.0		5.0	5.0	1	mg/L
Chloride	BT	EPA8000-0-02-1	4.2		0.5	1.0	1	mg/L
Sulfate	BT	EPA8000-0-02-1	7.5		0.5	1.0	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1241 Regent Road • Richmond, Virginia 23227 • Tel: (804) 358-8200 Fax: (804) 358-8207

Certificate of Analysis

Final Report

Sample Delivery Group ID: Laurel Corrective Action 191021

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave., Suite 200
Richmond, VA 23227

Date Issued: 11/5/2019 3:39:34PM

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action Wells

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group Laurel Corrective Action 191021. Work orders included in the sample delivery group:

<u>Work Order</u>	<u>Receive Date</u>	<u>Project Number</u>
19J0826	10/17/2019 2:30:00PM	19115362
19J0833	10/17/2019 2:30:00PM	19115362
19J0896	10/18/2019 2:30:00PM	19115362

Ted Soyars

Ted Soyars

Technical Director

End Notes

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, conductance and turbidity that are performed in the laboratory do not meet NELAP requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are shown so at the client's request and are not included in the laboratory's scope of certification nor have they been verified for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAP standards unless otherwise specified. For a complete list of the Laboratory's NELAP certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Ac Water & Soil Laboratories, Inc.



Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-X2	19J0826-01	Ground Water	10/16/2019 14:00	10/17/2019 14:30
PZ-4E	19J0826-02	Ground Water	10/16/2019 14:45	10/17/2019 14:30
MW-20	19J0826-03	Ground Water	10/16/2019 09:35	10/17/2019 14:30
Trip Blank	19J0826-04	Ground Water	10/03/2019 09:24	10/17/2019 14:30
MW-1C	19J0833-01	Ground Water	10/15/2019 12:58	10/17/2019 14:30
MW-1D	19J0833-02	Ground Water	10/16/2019 09:35	10/17/2019 14:30
MW-1E	19J0833-03	Ground Water	10/16/2019 09:55	10/17/2019 14:30
MW-3	19J0833-04	Ground Water	10/16/2019 11:35	10/17/2019 14:30
MW-5	19J0833-05	Ground Water	10/16/2019 13:25	10/17/2019 14:30
MW-6	19J0833-06	Ground Water	10/15/2019 14:25	10/17/2019 14:30
MW-X1	19J0833-07	Ground Water	10/15/2019 14:10	10/17/2019 14:30
MW-X2D	19J0833-08	Ground Water	10/16/2019 13:37	10/17/2019 14:30
Trip Blank	19J0833-09	Ground Water	10/02/2019 15:15	10/17/2019 14:30
MW-1F	19J0896-01	Ground Water	10/17/2019 10:42	10/16/2019 14:35
MW-1G	19J0896-02	Ground Water	10/17/2019 10:25	10/16/2019 14:35
MW-1H	19J0896-03	Ground Water	10/17/2019 10:35	10/16/2019 14:35
MW-1I	19J0896-04	Ground Water	10/17/2019 10:20	10/16/2019 14:35
CLF-1	19J0896-05	Ground Water	10/17/2019 13:04	10/16/2019 14:35
CLF-15A	19J0896-06	Ground Water	10/17/2019 14:30	10/16/2019 14:35
CLF-S3	19J0896-07	Ground Water	10/17/2019 14:25	10/16/2019 14:35
CLF-S1	19J0896-08	Ground Water	10/17/2019 13:00	10/16/2019 14:35

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-02

Laboratory Sample ID: 19A024-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/9000 Series Methods												
Mercury	01	7490-95-9	847470A	10/16/2019 08:40	10/16/2019 08:47	BL00		0.00001	0.00001	1	ug/L	MCB
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	01	689-20-8	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	0.40	1	ug/L	MCB
1,1,1 Trichloroethane	01	71-55-6	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.80	0.80	1	ug/L	MCB
1,1,2,2-Tetrafluoroethane	01	79-34-9	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.30	0.40	1	ug/L	MCB
1,1,2 Trichloroethane	01	75-00-5	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.50	1.00	1	ug/L	MCB
1,1 Dichloroethane	01	75-34-3	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.80	1.00	1	ug/L	MCB
1,1-Dichloroethylene	01	75-35-4	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.70	1.00	1	ug/L	MCB
1,3-Xylene (mixture)	01	98-18-4	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
1,2-Dichloroethane	01	90-00-1	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
1,2-Dibromoethane	01	107-06-2	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.70	1.00	1	ug/L	MCB
1,2-Dimethoxyethane	01	29-82-5	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
1,4-Dichlorobenzene	01	106-88-7	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
Methane (MFC)	01	75-00-3	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		3.00	3.00	1	ug/L	MCB
2-Hexanone (MFC)	01	594-79-8	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		3.00	3.00	1	ug/L	MCB
4-Methyl-2-pentanone (MFC)	01	108-10-1	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		1.50	3.00	1	ug/L	MCB
Acetone	01	67-64-1	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		7.00	10.0	1	ug/L	MCB
Acrylonitrile	01	107-13-1	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		1.70	3.00	1	ug/L	MCB
Benzene	01	71-43-2	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
Bromochloromethane	01	74-97-9	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.30	1.00	1	ug/L	MCB
Bromodichloromethane	01	75-27-4	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	0.50	1	ug/L	MCB
Bromotrichloromethane	01	75-25-2	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
Chloroform	01	74-82-9	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		0.40	1.00	1	ug/L	MCB
Chloroethane	01	75-00-9	84657000	10/16/2019 08:38	10/16/2019 08:37	BL00		1.00	1.0	1	ug/L	MCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-02

Laboratory Sample ID: 19A026-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	01	55-27-5	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.50	1.00	1	ug/L	BCB
Chloroacetylene	01	109-66-7	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	2.80		0.40	1.00	1	ug/L	BCB
Chloroethane	01	78-08-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.70	1.00	1	ug/L	BCB
Chloroform	01	67-68-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.50	0.80	1	ug/L	BCB
Chloromethane	01	74-87-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.05	0.08	1	ug/L	BCB
cis-1,2-Dichloroethylene	01	156-74-2	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	8.71	1	0.40	1.00	1	ug/L	BCB
trans-1,2-Dichloroethylene	01	10691-21-0	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.20	1.00	1	ug/L	BCB
1,1-Dichloroethane	01	129-68-1	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.20	0.80	1	ug/L	BCB
1,1-Dichloroethene	01	78-90-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
1,1,1-Trichloroethane	01	72-13-6	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.05	1.00	1	ug/L	BCB
1,1,2-Trichloroethane	01	100-41-4	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
1,1,2-Trichloroethene	01	78-90-4	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		1.70	10.0	1	ug/L	BCB
1,2-Dichloroethane	01	115091-28	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.80	2.00	1	ug/L	BCB
1												
Methylene chloride	01	75-08-2	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		1.80	4.00	1	ug/L	BCB
o-Xylene	01	95-47-6	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
Styrene	01	100-42-0	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
1,1,1-Trichloroethylene (PCE)	01	127-18-4	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
Isoprene	01	100-66-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.50	1.00	1	ug/L	BCB
trans-1,2-Dichloroethylene	01	156-74-3	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.80	1.00	1	ug/L	BCB
trans-1,2-Dichloropropene	01	10691-20-8	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	01	156-57-8	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		1.80	4.00	1	ug/L	BCB
Tetrahydrofuran	01	79-01-6	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.40	1.00	1	ug/L	BCB
Tetrahydrothiophene	01	75-08-4	SM/MSD	10/15/2019 08:33	10/15/2019 08:37	BLD		0.80	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-02

Laboratory Sample ID: 19A026-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	01	108-95-4	800/1000	10/18/2019 08:37	10/18/2019 08:37	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	01	75-01-4	800/1000	10/18/2019 08:37	10/18/2019 08:37	BL00		0.50	0.30	1	ug/L	BCB
Ethene, Total	01	1330-20-7	800/1000	10/18/2019 08:37	10/18/2019 08:37	BL00		1.00	0.60	1	ug/L	BCB
Sum: 1,2-Dichloroethane-d0 (Sum)	01	98.9 %	70-130	10/18/2019 08:37	10/18/2019 08:37							
Sum: 4-Bromobromomethane (Sum)	01	100 %	70-130	10/18/2019 08:37	10/18/2019 08:37							
Sum: Dibromofluoromethane (Sum)	01	98.7 %	70-130	10/18/2019 08:37	10/18/2019 08:37							
Sum: Toluene-d8 (Sum)	01	100 %	70-130	10/18/2019 08:37	10/18/2019 08:37							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-02

Laboratory Sample ID: 192025-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	01	74-82-6	8561 FM	10/21/2019 09:52	10/21/2019 09:52	96.5		2.0	5.0	1	ug/L	MSM
Sum Analytes (Total)	01		70 LRP	10/21/2019 09:52	10/21/2019 09:52							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-02

Laboratory Sample ID: 19A024-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	01	na	SM22 20088-2011	10/20/2019 09:50	10/20/2019 10:58	94.0		5.0	5.0	1	mg/L	JH
Chloride	01	60817-00-8	EPA300.0 82.1	10/25/2019 20:38	10/25/2019 20:38	81.4		0.5	1.0	1	mg/L	SKS
Nitrate as N	01	14797-05-0	Cek.	10/20/2019 14:40	10/20/2019 14:40	DL00		0.100	0.100	1	mg/L	TL
Nitrate-Nitrite as N	01	na	SM22 4500-NO3F-2011	10/20/2019 14:40	10/20/2019 14:40	DL00		0.10	0.10	1	mg/L	TL
Nitrite as N	01	14797-05-0	SM22 4500-NO2D-2011	10/16/2019 09:10	10/16/2019 09:15	DL00		0.01	0.05	1	mg/L	WMM
Sulfate	01	14808-79-8	EPA300.0 82.1	10/25/2019 20:38	10/25/2019 20:38	2.5		0.5	1.0	1	mg/L	SKS
Sulfide	01	18496-25-8	SW9215	10/23/2019 13:00	10/23/2019 13:00	DL00		0.80	1.00	1	mg/L	TL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: P2-48

Laboratory Sample ID: 19A0626-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	02	7439-97-2	847475A	10/16/2019 08:40	10/21/2019 16:49	0.00000		0.00000	0.00000	1	ug/L	MSL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: P2-48

Laboratory Sample ID: 19A026-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	69-73-9	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	02	71-55-6	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	02	79-34-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	02	79-09-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	02	75-34-3	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	02	75-35-4	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	02	95-19-4	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	02	95-59-1	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB
1,2-Dibromoethane	02	107-06-2	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	02	78-87-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	02	106-46-7	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	02	75-55-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		3.00	5.00	1	ug/L	BCB
2-Pentanone (MNA)	02	501-78-6	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	02	106-10-1	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		1.50	5.00	1	ug/L	BCB
Acetone	02	67-64-1	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		7.00	10.0	1	ug/L	BCB
Acrylonitrile	02	107-13-3	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		1.70	5.00	1	ug/L	BCB
Benzene	02	71-43-2	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB
Bromochloroethane	02	74-97-3	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	02	75-27-4	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	0.50	1	ug/L	BCB
Bromobenzene	02	75-25-2	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB
Bromonitroethane	02	74-83-9	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.80	1.00	1	ug/L	BCB
Carbon disulfide	02	75-15-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		1.80	10.0	1	ug/L	BCB
Carbon tetrachloride	02	56-23-5	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.70	1.00	1	ug/L	BCB
Chloroethane	02	108-96-7	8260.0002	10/16/2019 17:00	10/16/2019 17:00	BLD		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: P2-48

Laboratory Sample ID: 18A026-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-09-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.50	0.70	1	ug/L	KCS
Chloromethane	02	74-87-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.05	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	02	156-88-2	SM/2000	10/16/2019 17:03	10/16/2019 17:03	1.87		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10001-84-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	02	13466-1	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.25	0.50	1	ug/L	KCS
Monobromochloroethane	02	74-95-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.40	1.00	1	ug/L	KCS
Orthodibromochloroethane	02	75-71-8	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.60	1.00	1	ug/L	KCS
Trichloroethene	02	100-41-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.40	1.00	1	ug/L	KCS
Isobutylene	02	74-99-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		1.70	10.0	1	ug/L	KCS
m,p-Xylenes	02	106-42-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.60	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-3	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-8	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.40	1.00	1	ug/L	KCS
Styrene	02	100-42-1	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.40	1.00	1	ug/L	KCS
trans-2-Pentachloroethane	02	127-18-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	0.50	J	0.40	1.00	1	ug/L	KCS
Toluene	02	100-98-2	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-88-1	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10001-82-8	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	150-17-8	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	02	75-01-8	SM/2000	10/16/2019 17:03	10/16/2019 17:03	0.00	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-09-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SM/2000	10/16/2019 17:03	10/16/2019 17:03	1.50		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: P2-48

Laboratory Sample ID: 18A0626-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatiles Organic Compounds by GCMS												
Hydroc. Total	02	1000-20-1	SM/MSD	10/16/2019 17:02	10/16/2019 17:02	BLOD	1.00	3.00	1		ug/L	SCS
Sum: 1,2-Dichloroethane (Sum)	02	84-74-8	SM/MSD	10/16/2019 17:02	10/16/2019 17:02							
Sum: 1,1-Dichloroethene (Sum)	02	108-98-8	SM/MSD	10/16/2019 17:02	10/16/2019 17:02							
Sum: Chloroethane (Sum)	02	78-10-7	SM/MSD	10/16/2019 17:02	10/16/2019 17:02							
Sum: Toluene (Sum)	02	92-10-0	SM/MSD	10/16/2019 17:02	10/16/2019 17:02							
Head Space Analysis by GC												
Methane	02RE1	74-82-6	RSK175M	10/21/2019 13:42	10/21/2019 13:43	2570	29.0	50.0	10		ug/L	IRM
Sum: Acetylene (Sum)	02RE1	118-96-6	70-130	10/21/2019 13:43	10/21/2019 13:43							
Wet Chemistry Analysis												
Alkalinity	02	NA	SM22 23200-2011	10/30/2019 14:50	10/30/2019 14:50	22.0	5.0	5.0	1		mg/L	JH
Chloride	02	16887-00-0	EPA300.0 R2-1	10/25/2019 21:46	10/25/2019 21:46	2.4	0.5	1.0	1		mg/L	SKS
Nitrate as N	02	14797-55-0	Calc	10/30/2019 14:50	10/30/2019 14:50	BLOD	0.110	0.150	1		mg/L	TDL
Nitrate + Nitrite as N	02RE1	NA	SM22 4500-NO3F- 2011	10/30/2019 14:50	10/30/2019 14:50	BLOD	0.10	0.10	1		mg/L	TDL
Nitrite as N	02	14797-45-0	SM22 4500-NO2F- 2011	10/16/2019 09:15	10/16/2019 09:15	BLOD	0.01	0.05	1		mg/L	WAM
Sulfate	02	14808-29-8	EPA300.0 R2-1	10/25/2019 21:46	10/25/2019 21:46	BLOD	0.5	1.0	1		mg/L	SKS
Sulfide	02	14808-29-8	SM/MSD	10/23/2019 13:00	10/23/2019 13:00	BLOD	0.80	1.00	1		mg/L	TDL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-29

Laboratory Sample ID: 1920826-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	03	74-82-6	8561/SM	10/21/2019 11:35	10/21/2019 11:35	BLGD		2.0	5.0	1	ug/L	MSM
Sum Analytes (total)	03		8561/SM	10/21/2019 11:35	10/21/2019 11:35							

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-29

Laboratory Sample ID: 192025-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	01	na	SM22 232098-2011	10/20/2019 09:50	10/20/2019 10:58	75.0		0.0	0.0	1	mg/L	JH
Chloride	01	60887-00-8	EPA300.0 82.1	10/25/2019 22:12	10/25/2019 22:12	1.9		0.0	1.0	1	mg/L	SKS
Nitrate as N	01	14797-05-8	Cek.	10/20/2019 14:50	10/20/2019 14:50	0.320		0.100	0.100	1	mg/L	TDL
Nitrate-Nitrite as N	00102.1	na	SM22 4500-NO3F- 2011	10/20/2019 14:50	10/20/2019 14:50	0.00		0.10	0.10	1	mg/L	TDL
Nitrite as N	03	14797-05-0	SM22 4500-NO2B- 2011	10/18/2019 09:10	10/18/2019 09:15	BL00		0.01	0.05	1	mg/L	WAM
Sulfate	03	14808-79-8	EPA300.0 R2.1	10/25/2019 22:12	10/25/2019 22:12	BL00		0.5	1.0	1	mg/L	SKS
Sulfide	03	18400-25-8	SW9215	10/23/2019 13:00	10/23/2019 13:00	BL00		0.80	1.00	1	mg/L	TDL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19A024-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	69-73-9	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	04	71-55-6	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	04	79-34-5	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	04	79-09-5	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	04	70-34-2	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	04	71-36-4	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	04	90-19-4	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichlorobenzene	04	95-50-1	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethane	04	107-06-2	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	04	78-87-9	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	04	106-46-7	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	04	78-93-3	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		3.00	5.00	1	ug/L	BCB
2-Pentanone (MNA)	04	98-12-6	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	04	109-10-1	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		1.50	5.00	1	ug/L	BCB
Aroclor	04	8746-1	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		7.00	10.0	1	ug/L	BCB
Arochlor	04	107-13-1	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		1.70	5.00	1	ug/L	BCB
Benzene	04	71-43-2	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB
Bromochloroethane	04	74-97-3	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	04	76-27-4	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	0.50	1	ug/L	BCB
Bromobenzene	04	76-25-2	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB
Bromonethane	04	74-83-9	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.80	1.00	1	ug/L	BCB
Carbon disulfide	04	75-15-5	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	04	56-23-5	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.50	1.00	1	ug/L	BCB
Chloroethane	04	108-96-7	8260.0002	10/18/2019 11:58	10/18/2019 11:58	BL000		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19A024-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.70	1.00	1	ug/L	BCB
Chloroform	04	67-66-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.50	0.70	1	ug/L	BCB
Chloromethane	04	74-87-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.05	1.00	1	ug/L	BCB
1,1,1-Trichloroethane	04	100-44-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
1,1,1-Trichloroethylene	04	10041-01-0	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.30	1.00	1	ug/L	BCB
Dibromochloromethane	04	124-48-1	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.20	0.50	1	ug/L	BCB
Dibromomethane	04	74-97-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
Dichlorodifluoromethane	04	75-71-8	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.05	1.00	1	ug/L	BCB
Difluoromethane	04	100-01-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
Dibromomethane	04	74-88-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		1.70	10.0	1	ug/L	BCB
1,1-Dichloroethane	04	107-06-3	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.00	2.00	1	ug/L	BCB
Methylene chloride	04	75-09-2	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		1.00	4.00	1	ug/L	BCB
o-Xylene	04	95-47-8	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
Benzene	04	100-82-5	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
1,1-Dichloroethylene (GCL)	04	127-18-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
Benzene	04	100-82-5	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethylene	04	100-45-1	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	04	10041-02-8	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	04	100-17-8	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		1.00	4.00	1	ug/L	BCB
Trichloroethylene	04	79-01-6	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	04	75-88-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.00	1.00	1	ug/L	BCB
Vinyl acetate	04	100-00-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	04	75-01-4	8260.0000	10/18/2019 11:58	10/18/2019 11:58	BL00		0.00	0.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19A025-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	04	1000-20-1	SM/MSD	10/16/2019 11:56	10/16/2019 11:56	BLD	1.00	3.00	1		ug/L	WJS
Sum: 1,1-Dichloroethene (Sum)	04	697-63-9	SM/MSD	10/16/2019 11:56	10/16/2019 11:56							
Sum: 1,1-Dibromoethene (Sum)	04	106-96-3	SM/MSD	10/16/2019 11:56	10/16/2019 11:56							
Sum: 1,1-Dibromoethane (Sum)	04	96-12-8	SM/MSD	10/16/2019 11:56	10/16/2019 11:56							
Sum: Toluene (Sum)	04	108-88-3	SM/MSD	10/16/2019 11:56	10/16/2019 11:56							

Certificate of Analysis

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Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 1920826-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	04	74-82-6	8561/PM	11/05/2019 11:26	11/05/2019 11:26	BLD		2.0	5.0	1	ug/L	MSM
Sum Analytes (Total)	04			11/05/2019 11:26	11/05/2019 11:26							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 192093-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	01	7440-48-4	8000-HC	11/05/2019 09:00	11/05/2019 12:29	0.0000		0.0000	0.0000	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 19A093-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	01	71-55-6	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	01	79-34-5	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.30	0.40	1	ug/L	BCB
1,1,2-Dichloroethane	01	78-07-1	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethene	01	75-34-3	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.4		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethane	01	71-71-4	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	01	88-16-4	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethane	01	84-59-1	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethane	01	107-06-2	8260.000	10/16/2019 11:00	10/16/2019 15:00	79.00		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	01	78-87-5	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.01		0.40	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	01	106-46-7	8260.000	10/16/2019 11:00	10/16/2019 15:00	1.00		0.40	1.00	1	ug/L	BCB
1,4-Dichlorobenzene (MIX)	01	78-87-2	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		2.00	5.00	1	ug/L	BCB
1,4-Dichlorobenzene (MIX)	01	541-79-8	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		2.20	5.00	1	ug/L	BCB
1-Methyl-2-chloroethane (MIX)	01	108-16-1	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		1.50	5.00	1	ug/L	BCB
Acetone	01	67-64-1	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.50	0.50	1	ug/L	BCB
Acrylonitrile	01	107-13-1	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		1.70	5.00	1	ug/L	BCB
Benzene	01	71-43-2	8260.000	10/16/2019 11:00	10/16/2019 15:00	1.00		0.40	1.00	1	ug/L	BCB
Bromochloromethane	01	74-87-3	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.50	1.00	1	ug/L	BCB
Bromodichloromethane	01	75-27-4	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	0.50	1	ug/L	BCB
Bromofluoromethane	01	75-25-3	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	1.00	1	ug/L	BCB
Bromomethane	01	74-83-6	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.40	1.00	1	ug/L	BCB
Carbon disulfide	01	75-15-0	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		1.00	0.0	1	ug/L	BCB
Carbon tetrachloride	01	56-23-5	8260.000	10/16/2019 11:00	10/16/2019 15:00	0.00		0.50	1.00	1	ug/L	BCB
Chlorobenzene	01	108-90-7	8260.000	10/16/2019 11:00	10/16/2019 15:00	2.00		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 19A093-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-09-3	8000000	10/16/2019 11:00	10/16/2019 15:00	2.17		0.70	1.00	1	ug/L	WCS
Chloroform	01	67-66-3	8000000	10/16/2019 11:00	10/16/2019 15:00	85.00		0.30	0.50	1	ug/L	WCS
Chloromethane	01	74-87-3	8000000	10/16/2019 11:00	10/16/2019 15:00	85.00		0.05	1.00	1	ug/L	WCS
cis-1,2-Dichloroethylene	01	106-68-2	8000000	10/16/2019 11:00	10/16/2019 15:00	18.7		0.40	1.00	1	ug/L	WCS
cis-1,3-Dichloropropene	01	10661-01-8	8000000	10/16/2019 11:00	10/16/2019 15:00	85.00		0.30	1.00	1	ug/L	WCS
Dibromochloromethane	01	124-46-1	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.70	0.50	1	ug/L	WCS
Dibromomethane	01	74-90-3	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	1.00	1	ug/L	WCS
Dibromofluoromethane	01	75-71-8	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.05	1.00	1	ug/L	WCS
Fluoromethane	01	50-01-4	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	1.00	1	ug/L	WCS
Hexamethane	01	74-89-4	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		1.70	10.0	1	ug/L	WCS
n-p-Xylene	01	106-11-2	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	2.00	1	ug/L	WCS
Methylalcohols	01	75-09-3	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		1.00	4.00	1	ug/L	WCS
o-Xylene	01	95-47-8	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	1.00	1	ug/L	WCS
Opans	01	100-82-5	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	1.00	1	ug/L	WCS
Tetrachloroethylene (PCE)	01	127-18-4	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.40	1.00	1	ug/L	WCS
Toluene	01	106-96-2	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.30	1.00	1	ug/L	WCS
trans-1,2-Dichloroethylene	01	156-88-1	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.80	1.00	1	ug/L	WCS
trans-1,3-Dichloropropene	01	10061-02-8	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.30	1.00	1	ug/L	WCS
trans-1,4-Dichloro-2-butene	01	100-57-8	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		1.00	4.00	1	ug/L	WCS
Trichloroethylene	01	79-01-8	8000000	10/16/2019 11:00	10/16/2019 15:00	1.12		0.40	1.00	1	ug/L	WCS
Trichlorofluoromethane	01	75-79-4	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		0.05	1.00	1	ug/L	WCS
Vinyl acetate	01	108-05-4	8000000	10/16/2019 11:00	10/16/2019 15:00	18.00		2.00	10.0	1	ug/L	WCS
Vinyl chloride	01	75-01-4	8000000	10/16/2019 11:00	10/16/2019 15:00	4.81		0.50	0.50	1	ug/L	WCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 192093-01

Parameter	Sampling	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	01	1000-20-1	SM/MSD	10/16/2019 11:00	10/16/2019 12:00	BLD	1.00	3.00	1		ug/L	ecb
Sum: 1,1-Dichloroethene (Sum)	01	600-81-9	SM/MSD	10/16/2019 11:00	10/16/2019 12:00							
Sum: 1,1-Dibromoethene (Sum)	01	600-81-9	SM/MSD	10/16/2019 11:00	10/16/2019 12:00							
Sum: Chloroethene (Sum)	01	600-81-9	SM/MSD	10/16/2019 11:00	10/16/2019 12:00							
Sum: Ethene (Sum)	01	600-81-9	SM/MSD	10/16/2019 11:00	10/16/2019 12:00							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 192083-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	02	7440-50-9	8000-10C	11/05/2019 09:00	11/05/2019 12:53	0.0245		0.0001	0.0002	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 182083-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	02	69-73-9	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	71-69-8	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.30	0.40	1	ug/L	KCS
1,1,2-Dichloroethane	02	78-07-1	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethene	02	71-71-4	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	88-16-4	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	02	85-59-1	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
1,2-Trichloroethane	02	101-08-2	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-67-5	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	2.24		0.40	1.00	1	ug/L	KCS
3-Pentanone (MIBK)	02	78-58-2	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		3.00	5.00	1	ug/L	KCS
3-Pentanone (MIBK)	02	98-12-8	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	02	106-16-1	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-3	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	02	74-61-5	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.50	1.00	1	ug/L	KCS
Bromoethoxyethane	02	75-27-4	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	0.50	1	ug/L	KCS
Bromobenzene	02	71-25-2	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	02	74-61-5	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-8	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SM/MSD	10/18/2019 15:29	10/18/2019 15:29	BLD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 18A093-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-09-3	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.50	0.70	1	ug/L	KCS
Chloromethane	02	74-87-3	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.05	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	02	156-88-2	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	0.72		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	1000-1-84-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane:	02	108-90-1	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.25	0.50	1	ug/L	KCS
Monobromochloroethane:	02	74-96-3	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Octachloropropane	02	75-71-8	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.60	1.00	1	ug/L	KCS
Fluorobenzene	02	100-41-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	02	74-89-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		1.70	10.0	1	ug/L	KCS
vinyl Chloride	02	1700-17-5	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-3	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	02	100-42-1	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Trichloroethylene (PCE)	02	127-18-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-2	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-88-1	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	1000-1-82-8	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	106-12-8	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		1.00	4.00	1	ug/L	KCS
Tetrachloroethylene	02	79-01-6	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethane	02	75-69-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		0.60	1.00	1	ug/L	KCS
Vinyl acetate	02	100-42-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SM/MSD	10/16/2019 15:29	10/16/2019 15:29	1.40		0.50	0.70	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 192093-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	02	1000-20-1	SM/MSD	10/16/2019 10:29	10/16/2019 10:29	BLD	1.00	3.00	1		ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	02	60-31-6	SM/MSD	10/16/2019 10:29	10/16/2019 10:29							
Sum: 1,1-Dibromoethene (Sum)	02	106-96-3	SM/MSD	10/16/2019 10:29	10/16/2019 10:29							
Sum: Chloroethene (Sum)	02	75-71-4	SM/MSD	10/16/2019 10:29	10/16/2019 10:29							
Sum: Triene (Sum)	02	60-31-6	SM/MSD	10/16/2019 10:29	10/16/2019 10:29							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-18

Laboratory Sample ID: 192083-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	01	7440-50-6	8000-HC	11/05/2019 09:00	11/05/2019 12:47	BLD		0.0001	0.0002	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-18

Laboratory Sample ID: 192093-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	01	71-69-8	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	01	79-34-5	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	01	79-00-5	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	01	75-34-3	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethene	01	75-70-4	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.75	1.00	1	ug/L	BCB
1,2-Dichloropropane	01	88-16-4	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	00	85-59-1	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	BCB
1,2-Trichloroethane	01	101-09-2	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	00	78-87-5	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	01	106-46-7	SM/1000	10/16/2019 11:58	10/16/2019 15:51	1.78		0.40	1.00	1	ug/L	BCB
3-Pentane (M-X)	01	78-28-2	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		3.00	3.00	1	ug/L	BCB
3-Pentane (M-W)	00	681-78-8	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		2.20	3.00	1	ug/L	BCB
3-Methyl-2-pentane (M-W)	00	106-19-1	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		1.50	3.00	1	ug/L	BCB
Acetone	01	67-64-1	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		2.00	3.00	1	ug/L	BCB
Acrylonitrile	01	107-13-3	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		1.70	3.00	1	ug/L	BCB
Benzene	00	71-43-2	SM/1000	10/16/2019 11:58	10/16/2019 15:51	0.02	J	0.70	1.00	1	ug/L	BCB
Bromo-chloroethane	00	74-87-6	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.50	1.00	1	ug/L	BCB
Bromo-dichloroethane	01	79-27-4	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	0.50	1	ug/L	BCB
Bromoflame	01	75-25-3	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	BCB
Bromochloroethene	01	74-81-6	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.60	1.00	1	ug/L	BCB
Carbon disulfide	01	75-15-0	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		1.00	3.00	1	ug/L	BCB
Carbon tetrachloride	01	56-23-5	SM/1000	10/16/2019 11:58	10/16/2019 15:51	BL00		0.30	1.00	1	ug/L	BCB
Chlorobenzene	01	108-90-7	SM/1000	10/16/2019 11:58	10/16/2019 15:51	0.07	J	0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-18

Laboratory Sample ID: 182019-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-09-3	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.50	0.70	1	ug/L	KCS
Chloromethane	01	74-87-3	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.05	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-58-2	SM/2000	10/16/2019 15:51	10/16/2019 15:51	34.1		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	1000-1-84-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloroethane:	01	106-96-1	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.25	0.50	1	ug/L	KCS
Monobromochloroethane:	01	74-96-3	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoroethane	01	75-71-8	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.60	1.00	1	ug/L	KCS
Fluorochloroethane	01	100-41-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	KCS
Isobromochloroethane	01	74-98-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		1.70	10.0	1	ug/L	KCS
o,p-DDE:	01	17865-25-1	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.60	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-3	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		3.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-1	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	KCS
Trans-1,2-Dichloroethylene (PCE)	01	127-18-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-2	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-58-1	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	1000-1-82-8	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	119-33-8	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		1.00	6.00	1	ug/L	KCS
Trichloroethylene	01	79-07-6	SM/2000	10/16/2019 15:51	10/16/2019 15:51	3.2%		0.40	1.00	1	ug/L	KCS
Trichlorofluoroethane	01	72-69-1	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		0.00	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	BL00		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-07-4	SM/2000	10/16/2019 15:51	10/16/2019 15:51	2.00		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-18

Laboratory Sample ID: 182083-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	01	1000-20-7	SM/MSD	10/16/2019 10:51	10/16/2019 10:51	BLD	1.00	3.00	1		ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	01	67-72-6	SM/MSD	10/16/2019 10:51	10/16/2019 10:51							
Sum: 1,1-Dibromoethene (Sum)	01	69-56-6	SM/MSD	10/16/2019 10:51	10/16/2019 10:51							
Sum: Chloroethene (Sum)	01	67-72-6	SM/MSD	10/16/2019 10:51	10/16/2019 10:51							
Sum: Ethene (Sum)	01	69-56-6	SM/MSD	10/16/2019 10:51	10/16/2019 10:51							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-3

Laboratory Sample ID: 192093-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	04	7440-50-9	8000-10C	11/05/2019 09:00	11/05/2019 12:58	0.004	J	0.0020	0.0040	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-3

Laboratory Sample ID: 192093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	69-73-9	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	04	71-55-6	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	04	79-34-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	04	79-09-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	04	75-34-3	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	04	75-35-4	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	04	80-10-4	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	04	80-58-1	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dibromoethane	04	107-06-2	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dibromoethene	04	78-87-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	04	106-46-7	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	04	75-55-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		3.00	5.00	1	ug/L	BCB
2-Pentanone (MNA)	04	501-78-6	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MMA)	04	106-10-1	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		1.50	3.00	1	ug/L	BCB
Acetone	04	67-64-1	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		7.00	10.0	1	ug/L	BCB
Acrylonitrile	04	107-13-3	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		1.70	3.00	1	ug/L	BCB
Benzene	04	71-43-2	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB
Bromochloroethane	04	74-97-3	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	04	75-27-4	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	0.50	1	ug/L	BCB
Bromobenzene	04	75-25-2	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB
Bromonitroethane	04	74-83-9	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.80	1.00	1	ug/L	BCB
Carbon disulfide	04	75-15-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	04	56-23-5	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.50	1.00	1	ug/L	BCB
Chloroethane	04	108-96-7	8260.0002	10/16/2019 08:12	10/16/2019 08:13	BL000		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-3

Laboratory Sample ID: 192093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	1.00	1	ug/L	BCB
Chloroform	04	67-66-3	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	0.30	1	ug/L	BCB
Chloromethane	04	74-87-3	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.05	1.00	1	ug/L	BCB
m-1,3-Dichlorobenzene	04	106-48-2	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
m-1,3-Dichlorobenzene	04	10641-01-0	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	1.00	1	ug/L	BCB
Dibromochloromethane	04	124-48-1	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	0.50	1	ug/L	BCB
Dibromomethane	04	74-93-3	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Dichlorodifluoromethane	04	75-71-8	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.05	1.00	1	ug/L	BCB
Difluoromethane	04	100-01-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Dibromomethane	04	74-98-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		1.10	10.0	1	ug/L	BCB
m,p-Xylenes	04	175401-25	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.00	2.00	1	ug/L	BCB
Methylene chloride	04	75-09-2	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		1.00	4.00	1	ug/L	BCB
o-Xylene	04	95-47-8	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Bromoform	04	100-02-5	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Tetrachloroethylene (PCE)	04	127-18-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Bromoform	04	100-00-1	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	04	106-48-1	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.05	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	04	10641-02-8	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	04	105-17-8	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		1.00	4.00	1	ug/L	BCB
Trichloroethylene	04	79-01-6	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	04	75-68-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.00	1.00	1	ug/L	BCB
Vinyl acetate	04	108-05-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	04	75-01-4	8060XXXX	10/16/2019 08:12	10/16/2019 08:13	BL00		0.10	0.10	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-3

Laboratory Sample ID: 192093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	04	1000-20-1	SM/MSD	10/16/2019 08:12	10/16/2019 08:13	BLD	1.00	3.00	1		ug/L	ecb
Sum: 1,1-Dichloroethene (Sum)	04	64-17-5	20 (20)	10/16/2019 08:13	10/16/2019 08:13							
Sum: 1,1-Dibromoethene (Sum)	04	69-56-6	20 (20)	10/16/2019 08:13	10/16/2019 08:13							
Sum: 1,1-Dibromoethane (Sum)	04	69-56-6	20 (20)	10/16/2019 08:13	10/16/2019 08:13							
Sum: Toluene (Sum)	04	64-17-5	20 (20)	10/16/2019 08:13	10/16/2019 08:13							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-5

Laboratory Sample ID: 192093-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	05	7440-50-9	8000-HC	11/05/2019 09:00	11/05/2019 12:58	0.001	0.0001	0.0005	1		mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-5

Laboratory Sample ID: 182093-05

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	69-73-9	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	05	71-55-6	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Dichloroethane	05	78-07-1	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethene	05	75-34-3	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	95-19-4	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	05	75-55-5	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		3.00	5.00	1	ug/L	KCS
2-Pentanone (MIBK)	05	501-78-6	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	606-10-1	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	627-19-1	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	8260.0002	10/16/2019 16:36	10/16/2019 16:36	0.09	J	0.40	1.00	1	ug/L	KCS
Bromochloroethane	05	74-97-5	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	05	79-27-4	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	0.50	1	ug/L	KCS
Bromopropane	05	75-29-2	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.40	1.00	1	ug/L	KCS
Bromobenzene	05	74-83-6	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-8	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		1.80	50.0	1	ug/L	KCS
Carbon tetrachloride	05	54-71-5	8260.0002	10/16/2019 16:36	10/16/2019 16:36	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	8260.0002	10/16/2019 16:36	10/16/2019 16:36	2.38		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-5

Laboratory Sample ID: 19A093-05

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	05	75-09-3	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.70	1.00	1	ug/L	BCB
Chloroform	05	67-66-3	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.50	0.70	1	ug/L	BCB
Chloromethane	05	74-87-3	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.05	1.00	1	ug/L	BCB
1,1,1-Trichloroethane	05	106-98-2	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
1,1,1-Trichloroethylene	05	10691-01-0	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.30	1.00	1	ug/L	BCB
Dichlorodifluoromethane	05	128-00-1	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.20	0.50	1	ug/L	BCB
Dichloromethane	05	74-93-3	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Dichlorotetrafluoroethane	05	75-71-8	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.05	1.00	1	ug/L	BCB
Ethylchloride	05	100-81-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Isocyanide	05	74-88-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		1.70	10.0	1	ug/L	BCB
1,1,2-Trichloroethane	05	111461-25	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.00	2.00	1	ug/L	BCB
Methylene chloride	05	75-09-2	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		1.00	4.00	1	ug/L	BCB
o-Xylene	05	95-47-8	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Bromo	05	100-42-5	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Tetrachloroethylene (PCE)	05	127-18-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Bromo	05	108-98-1	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	05	106-68-1	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.00	1.00	1	ug/L	BCB
trans-1,3-Dichloropropane	05	10661-02-8	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	05	105-17-8	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		1.00	4.00	1	ug/L	BCB
Trichloroethylene	05	79-01-6	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	05	75-68-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.00	1.00	1	ug/L	BCB
Vinyl acetate	05	108-05-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	05	75-01-4	8260.0000	10/16/2019 16:30	10/16/2019 16:30	BL00		0.00	0.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-5

Laboratory Sample ID: 192093-05

Parameter	Sampling	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	05	1000-20-1	SM/MSD	10/15/2019 09:30	10/15/2019 09:30	05.00	1.00	3.00	1		ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	05	107-66-3	05.00	10/15/2019 09:30	10/15/2019 09:30							
Sum: 1,1-Dibromoethene (Sum)	05	107-66-3	25.00	10/15/2019 09:30	10/15/2019 09:30							
Sum: Chloroethene (Sum)	05	75-71-4	25.00	10/15/2019 09:30	10/15/2019 09:30							
Sum: Triene (Sum)	05	64-17-5	25.00	10/15/2019 09:30	10/15/2019 09:30							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-6

Laboratory Sample ID: 192093-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	04	7440-48-4	8000-10C	11/05/2019 09:00	11/05/2019 12:55	0.267		0.0001	0.0002	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-4

Laboratory Sample ID: 192093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	06	69-73-9	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	06	71-69-8	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	06	79-34-5	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	06	79-00-5	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	06	75-34-3	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	06	75-35-4	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	06	106-99-4	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	06	75-35-1	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	BCB
1,2-Dibromoethane	06	107-06-2	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.70	1.00	1	ug/L	BCB
1,2-Dibromoethene	06	78-87-5	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	06	106-46-7	8260.0002	10/16/2019 16:52	10/16/2019 16:58	0.55		0.40	1.00	1	ug/L	BCB
2-Butanone (MEK)	06	75-97-3	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		3.00	3.00	1	ug/L	BCB
2-Heptanone (MIBK)	06	584-78-8	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		2.20	3.00	1	ug/L	BCB
4-Methyl-2-pentanone (MIBK)	06	109-10-1	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		1.50	3.00	1	ug/L	BCB
Aroclor	06	817-64-1	8260.0002	10/16/2019 16:52	10/16/2019 16:58	27.6		7.50	10.0	1	ug/L	BCB
Arochlor	06	1017-13-1	8260.0002	10/16/2019 16:52	10/16/2019 16:58	18.00		1.70	3.00	1	ug/L	BCB
Benzene	06	71-43-2	8260.0002	10/16/2019 16:52	10/16/2019 16:58	0.48	J	0.70	1.00	1	ug/L	BCB
Bromochloroethane	06	74-87-5	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	06	79-27-4	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.40	0.50	1	ug/L	BCB
Bromofluorobenzene	06	75-25-3	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	BCB
Bromonitrobenzene	06	74-82-6	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	BCB
Carbon disulfide	06	75-15-0	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	06	56-23-5	8260.0002	10/16/2019 16:52	10/16/2019 16:58	BL00		0.30	1.00	1	ug/L	BCB
Chlorobenzene	06	108-90-7	8260.0002	10/16/2019 16:52	10/16/2019 16:58	1.33		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-4

Laboratory Sample ID: 182093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	00	75-09-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.70	1.00	1	ug/L	KCS
Chloroform	00	67-66-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.50	0.70	1	ug/L	KCS
Chloromethane	00	74-87-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	00	156-88-2	SM/2000	10/16/2019 16:58	10/16/2019 16:58	3.00		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	00	10001-84-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.50	1.00	1	ug/L	KCS
Dibromochloroethane:	00	106-96-1	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.25	0.50	1	ug/L	KCS
Monobromochloroethane:	00	74-96-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	KCS
Dichlorodifluoroethane	00	75-71-8	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.60	1.00	1	ug/L	KCS
Fluoroethane	00	100-41-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	KCS
Iodobromochloroethane:	00	74-88-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		1.70	10.0	1	ug/L	KCS
vinyl bromide:	00	116001-21-1	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.60	2.00	1	ug/L	KCS
Methylene chloride	00	75-09-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		3.00	4.00	1	ug/L	KCS
Perchloroethane	00	69-30-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	KCS
o-Xylene	00	95-47-8	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	KCS
propene	00	100-42-1	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	KCS
Isopropylchloroethane (ICE)	00	127-18-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.40	1.00	1	ug/L	KCS
Toluene	00	108-88-3	SM/2000	10/16/2019 16:58	10/16/2019 16:58	1.00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	00	156-88-2	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	00	10001-80-8	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	00	119-52-8	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		1.00	4.00	1	ug/L	KCS
Trichloroethylene	00	79-07-8	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.50	1.00	1	ug/L	KCS
Trichlorofluoroethane	00	75-68-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	00	128-62-4	SM/2000	10/16/2019 16:58	10/16/2019 16:58	BL00		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-6

Laboratory Sample ID: 192093-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	05	75-01-4	8260/3000	10/15/2019 10:58	10/15/2019 10:58	BL00	0.50	0.50	1		ug/L	WCS
Ethene, Total	05	1330-20-7	8260/3000	10/15/2019 10:58	10/15/2019 10:58	BL00	1.00	0.60	1		ug/L	WCS
Con: 1,2-Dichloroethane-d0 (Con)		60-14-4	20-100	10/15/2019 10:58	10/15/2019 10:58							
Con: 4-Bromochlorobenzene (Con)		60-09-9	70-100	10/15/2019 10:58	10/15/2019 10:58							
Con: 1,1-Dibromoethane-d0 (Con)		106-96-8	70-100	10/15/2019 10:58	10/15/2019 10:58							
Con: Toluene-d8 (Con)		99-08-1	70-100	10/15/2019 10:58	10/15/2019 10:58							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-01

Laboratory Sample ID: 192083-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	07	7440-48-4	8000-HC	11/05/2019 09:00	11/05/2019 12:58	0.0007		0.0008	0.0010	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-01

Laboratory Sample ID: 192093-07

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	69-73-9	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	07	71-69-6	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	07	79-34-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	07	79-09-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	07	75-34-3	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	07	75-35-4	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	07	80-10-4	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	07	85-59-1	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dibromoethane	07	107-06-2	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dibromoethene	07	78-87-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	07	106-46-7	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	07	75-55-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		3.00	5.00	1	ug/L	BCB
2-Pentanone (MNA)	07	501-78-6	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	07	606-10-1	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		1.50	5.00	1	ug/L	BCB
Acetone	07	67-64-1	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		7.00	10.0	1	ug/L	BCB
Acrylonitrile	07	697-13-1	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		1.70	5.00	1	ug/L	BCB
Benzene	07	71-43-2	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	1.00	1	ug/L	BCB
Bromochloroethane	07	74-97-3	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	07	75-27-4	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	0.50	1	ug/L	BCB
Bromotoluene	07	75-25-2	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.40	1.00	1	ug/L	BCB
Bromobenzene	07	74-83-9	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.80	1.00	1	ug/L	BCB
Carbon disulfide	07	75-15-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	07	56-23-5	8260.0002	10/16/2019 17:20	10/16/2019 17:20	BL000		0.50	1.00	1	ug/L	BCB
Chlorobenzene	07	108-90-7	8260.0002	10/16/2019 17:20	10/16/2019 17:20	1.00		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-01

Laboratory Sample ID: 182083-07

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-09-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	0.71	J	0.70	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.30	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.05	1.00	1	ug/L	KCS
1,1,1-Trichloroethylene	07	100-99-2	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
1,1,2-Trichloroethylene	07	100-97-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.30	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	133-85-1	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.25	0.50	1	ug/L	KCS
Dibromochloromethane	07	74-95-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
Dichlorotetrafluoroethane	07	75-71-8	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.60	1.00	1	ug/L	KCS
Fluoromethane	07	100-41-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
Iodoethane	07	74-86-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		1.70	10.0	1	ug/L	KCS
1,1,1-Trifluoroethane	07	116-14-5	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.60	2.00	1	ug/L	KCS
1												
Methylene chloride	07	75-09-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		3.00	4.00	1	ug/L	KCS
Naphthalene	07	81-20-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.80	1.00	1	ug/L	KCS
o-Xylene	07	95-47-8	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
Acrylonitrile	07	100-52-7	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
Isocyanobenzene (NCA)	07	127-18-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.40	1.00	1	ug/L	KCS
Benzene	07	106-98-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	106-90-3	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-8	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	100-52-8	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		1.00	4.00	1	ug/L	KCS
Tetrachloroethane	07	79-07-6	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.60	1.00	1	ug/L	KCS
Tetrachloroethene	07	79-09-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SM/2000	10/16/2019 17:20	10/16/2019 17:20	BL00		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-01

Laboratory Sample ID: 192093-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	07	75-01-4	8260.000	10/15/2019 17:20	10/15/2019 17:20	BL00	0.00	0.00	1		ug/L	BCS
Aromatics Total	07	1500-20-7	8260.000	10/15/2019 17:20	10/15/2019 17:20	BL00	1.00	0.00	1		ug/L	BCS
Sum: 1,2-Dichloroethane-d0 (Sum)	07	63-10-4	20-100	10/15/2019 17:20	10/15/2019 17:20							
Sum: 4-Bromodichloroethane (Sum)	07	106-94-0	20-100	10/15/2019 17:20	10/15/2019 17:20							
Sum: 1,1-Dibromoethene-d0 (Sum)	07	106-94-0	20-100	10/15/2019 17:20	10/15/2019 17:20							
Sum: Toluene-d8 (Sum)	07	100-52-7	70-130	10/15/2019 17:20	10/15/2019 17:20							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-010

Laboratory Sample ID: 192093-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	08	7440-50-9	8000.00C	10/16/2019 09:00	10/27/2019 13:00	BL00		0.0000	0.0000	1	mg/L	SM
Mercury	08	7439-97-6	8004.00A	10/16/2019 09:40	10/27/2019 10:00	BL00		0.00000	0.00000	1	mg/L	SM

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-020

Laboratory Sample ID: 192003-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	69-73-9	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	08	71-69-9	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	08	79-34-9	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	08	79-09-5	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	08	75-34-3	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	08	75-35-4	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	08	106-99-4	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	08	75-35-3	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloropropane	08	107-06-2	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	08	78-87-5	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	08	106-46-7	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	08	75-55-5	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		3.00	5.00	1	ug/L	BCB
2-Butanone (MIBK)	08	501-78-6	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	08	106-10-1	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		1.50	3.00	1	ug/L	BCB
Acetone	08	67-64-1	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		7.00	10.0	1	ug/L	BCB
Acrylonitrile	08	107-13-3	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		1.70	3.00	1	ug/L	BCB
Benzene	08	71-43-2	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB
Bromochloroethane	08	74-97-3	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	08	75-27-4	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	0.50	1	ug/L	BCB
Bromobenzene	08	75-25-2	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB
Bromonitroethane	08	74-83-9	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.80	1.00	1	ug/L	BCB
Carbon disulfide	08	75-15-5	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		1.80	10.0	1	ug/L	BCB
Carbon tetrachloride	08	56-23-5	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.70	1.00	1	ug/L	BCB
Chloroethane	08	108-96-7	8260.0002	10/16/2019 17:42	10/16/2019 17:42	BL000		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-020

Laboratory Sample ID: 192093-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-00-3	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.70	1.00	1	ug/L	BCB
Chloroform	08	67-66-3	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.50	0.70	1	ug/L	BCB
Chloromethane	08	74-87-3	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.05	1.00	1	ug/L	BCB
cis-1,2-Dichloroethane	08	106-88-2	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
cis-1,2-Dichloropropene	08	10661-01-0	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.20	1.00	1	ug/L	BCB
Dibromochloromethane	08	124-48-1	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.20	0.50	1	ug/L	BCB
Dibromomethane	08	74-93-3	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
Dichlorodifluoromethane	08	75-71-8	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.05	1.00	1	ug/L	BCB
Difluoromethane	08	100-01-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
Dibromethane	08	74-88-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		1.70	10.0	1	ug/L	BCB
o,p-Xylenes	08	175461-25-1	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.00	2.00	1	ug/L	BCB
Methylene chloride	08	75-09-2	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		1.00	4.00	1	ug/L	BCB
m-Xylene	08	95-47-8	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
Styrene	08	100-42-5	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	08	127-18-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
Styrene	08	100-42-5	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	08	106-88-1	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.00	1.00	1	ug/L	BCB
trans-1,3-Dichloropropene	08	10661-02-8	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.20	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	08	105-17-8	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		1.00	4.00	1	ug/L	BCB
Trichloroethylene	08	79-01-6	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	08	75-68-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.00	1.00	1	ug/L	BCB
Vinyl acetate	08	108-05-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	08	75-01-4	8260.0000	10/16/2019 17:42	10/16/2019 17:42	BL00		0.00	0.50	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-010

Laboratory Sample ID: 192003-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1000-20-7	SM/MSD	10/16/2019 17:42	10/16/2019 17:42	BLND	1.00	3.00	1		ug/L	WJS
Sum: 1,1-Dichloroethene (Sum)	08	100 %	SM/MSD	10/16/2019 17:42	10/16/2019 17:42							
Sum: 1,1-Dibromoethene (Sum)	08	99.4 %	SM/MSD	10/16/2019 17:42	10/16/2019 17:42							
Sum: Dichlorofluoroethene (Sum)	08	99.7 %	SM/MSD	10/16/2019 17:42	10/16/2019 17:42							
Sum: Triene (Sum)	08	97.7 %	SM/MSD	10/16/2019 17:42	10/16/2019 17:42							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19A093-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	00	69-73-9	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	00	71-55-6	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	00	79-34-5	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	00	79-00-5	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	00	79-34-9	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	00	79-36-4	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	00	96-18-4	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
1,2-Dichlorobenzene	00	95-50-1	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
1,2-Dibromoethane	00	107-06-2	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	00	78-87-9	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	00	106-46-7	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	00	79-59-5	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		3.00	5.00	1	ug/L	BCB
2-Nonanone (MNA)	00	591-78-6	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	00	69-10-1	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		1.50	3.00	1	ug/L	BCB
Acetone	00	67-64-1	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		7.00	10.0	1	ug/L	BCB
Acrylonitrile	00	697-19-1	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		1.70	3.00	1	ug/L	BCB
Benzene	00	71-43-2	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Bromochloroethane	00	74-97-3	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	00	79-27-4	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	0.50	1	ug/L	BCB
Bromobenzene	00	79-25-2	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Bromonitroethane	00	74-83-9	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.80	1.00	1	ug/L	BCB
Carbon disulfide	00	75-15-8	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	00	56-23-5	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.50	1.00	1	ug/L	BCB
Chloroethane	00	108-96-7	8260.0002	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19A093-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	00	75-00-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.70	1.00	1	ug/L	BCB
Chloroform	00	67-66-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.50	0.70	1	ug/L	BCB
Chloromethane	00	74-87-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.05	1.00	1	ug/L	BCB
cis-1,2-Dichloroethylene	00	156-88-2	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
cis-1,2-Dichloropropane	00	10664-69-0	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.30	1.00	1	ug/L	BCB
Dibromochloromethane	00	124-48-1	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.20	0.50	1	ug/L	BCB
Dibromomethane	00	74-93-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Dichlorodifluoromethane	00	75-71-8	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.05	1.00	1	ug/L	BCB
Dibromopropane	00	100-81-4	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Dodecane	00	74-88-4	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		1.70	10.0	1	ug/L	BCB
n-p-Xylene	00	106-11-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.00	2.00	1	ug/L	BCB
1												
Methylene chloride	00	75-09-2	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		1.00	4.00	1	ug/L	BCB
Propylbenzene	00	94-20-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.00	1.00	1	ug/L	BCB
n-Nonane	00	97-87-6	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Octane	00	100-82-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Trichloroethylene (TCE)	00	127-18-4	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Hexane	00	106-98-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.50	1.00	1	ug/L	BCB
trans-1,2-Dichloroethylene	00	156-88-3	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
trans-1,2-Dichloropropane	00	10664-69-8	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	00	150-57-8	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		1.00	4.00	1	ug/L	BCB
Tetrahydrofuran	00	75-81-8	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.40	1.00	1	ug/L	BCB
Tetrahydrofuranmethane	00	75-89-4	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		0.00	1.00	1	ug/L	BCB
Undecane	00	106-95-4	8260.0000	10/16/2019 12:00	10/16/2019 12:00	BL00		2.00	10.0	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 192093-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	08	75-01-4	8260/6000	10/15/2019 12:00	10/15/2019 12:00	BL00	0.00	0.00	1		ug/L	WCS
Aromatics Total	08	1500-20-7	8260/6000	10/15/2019 12:00	10/15/2019 12:00	BL00	1.00	0.00	1		ug/L	WCS
Sum: 1,2-Dichloroethane-d0 (Sum)	08	60-11-6	39-100	10/15/2019 12:00	10/15/2019 12:00							
Sum: 4-Bromobenzonitrile (Sum)	08	60-11-6	39-100	10/15/2019 12:00	10/15/2019 12:00							
Sum: 1,1-Dibromoethane-d0 (Sum)	08	60-11-6	39-100	10/15/2019 12:00	10/15/2019 12:00							
Sum: Toluene-d8 (Sum)	08	60-11-6	70-130	10/15/2019 12:00	10/15/2019 12:00							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-1P

Laboratory Sample ID: 192084-01

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	01	7440-50-6	8000-HC	10/23/2019 16:30	10/24/2019 14:11	BLD	0.0001	0.0002	1		mg/L	SLM

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-1P

Laboratory Sample ID: 19A0004-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	71-55-6	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Dichloroethane	01	79-36-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	79-34-9	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	1.00		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	71-71-4	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	88-16-4	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	01	85-59-1	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-96-2	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	79-67-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-86-2	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	0.51	J	0.40	1.00	1	ug/L	KCS
1-Hexane (M-H)	01	79-58-2	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		3.00	5.00	1	ug/L	KCS
1-Pentane (M-H)	01	69-72-9	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		2.20	5.00	1	ug/L	KCS
1-Methyl-2-pentanone (MMP)	01	109-19-1	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		7.00	10.0	1	ug/L	KCS
Amylacetate	01	107-03-1	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	01	74-61-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.50	1.00	1	ug/L	KCS
Bromoethoxyethane	01	75-27-4	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	0.50	1	ug/L	KCS
Bromobenzene	01	71-29-2	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	01	74-61-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	01	75-75-8	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SM/MSD	10/21/2019 14:19	10/21/2019 14:19	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-1P

Laboratory Sample ID: 19A0004-01

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	01	75-00-3	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.50	0.70	1	ug/L	KCS
Chloromethane	01	74-87-3	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	01	156-88-2	SM/2000	10/21/2019 14:19	10/21/2019 14:19	0.7		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	1000-1-84-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.70	1.00	1	ug/L	KCS
Dibromochloroethane:	01	106-93-1	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.25	0.50	1	ug/L	KCS
Monobromochloroethane:	01	74-96-3	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.40	1.00	1	ug/L	KCS
Octachloropropane	01	75-71-8	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.65	1.00	1	ug/L	KCS
Fluorobenzene	01	100-41-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.40	1.00	1	ug/L	KCS
Isobutylene	01	74-94-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD	C	1.70	10.0	1	ug/L	KCS
mp-Xylene:	01	132661-25	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.60	2.00	1	ug/L	KCS
Methylacetylene	01	75-00-2	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.40	1.00	1	ug/L	KCS
Trichloroethylene (PCE)	01	127-18-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-2	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-86-1	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	1000-1-82-8	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	106-67-8	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-07-6	SM/2000	10/21/2019 14:19	10/21/2019 14:19	1.38		0.40	1.00	1	ug/L	KCS
Trichlorobromomethane	01	72-69-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl acetate	01	75-01-4	SM/2000	10/21/2019 14:19	10/21/2019 14:19	0.84		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-1P

Laboratory Sample ID: 19A0884-01

Parameter	Sampling	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	01	1000-20-1	8080/8000	10/21/2019 14:19	10/21/2019 14:19	BLD		1.00	3.00	1	ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	01	66-10-1	79-100	10/21/2019 14:19	10/21/2019 14:19							
Sum: 1,1-Dichloroethane (Sum)	01	106-10-1	79-100	10/21/2019 14:19	10/21/2019 14:19							
Sum: Chloroethene (Sum)	01	74-48-1	79-100	10/21/2019 14:19	10/21/2019 14:19							
Sum: Ethene (Sum)	01	66-10-1	79-100	10/21/2019 14:19	10/21/2019 14:19							

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 19A0004-02

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	80001	7440-50-9	80001-IC	10/21/2019 09:30	10/21/2019 13:12	BL00		0.0001	0.0002	1	ug/L	KCS
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrafluoroethane	02	689-20-9	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	0.40	1	ug/L	KCS
1,1,1 Trichloroethane	02	71-55-6	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.80	0.80	1	ug/L	KCS
1,1,2,2-Tetrafluoroethane	02	79-34-9	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.20	0.40	1	ug/L	KCS
1,1,2 Trichloroethane	02	79-00-5	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	79-34-3	8015/7000	10/21/2019 09:30	10/21/2019 15:10	4.28		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	79-20-4	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	80-12-0	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	02	80-12-1	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dibromoethane	02	106-93-7	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dibromoethene	02	79-07-5	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-49-7	8015/7000	10/21/2019 09:30	10/21/2019 15:10	0.47	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	02	79-59-1	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		3.00	5.00	1	ug/L	KCS
2-Butanol (MIBK)	02	505-70-8	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		1.20	2.00	1	ug/L	KCS
Benzene	02	71-43-2	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.60	1.00	1	ug/L	KCS
Bromochloroethane	02	74-97-9	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	02	79-37-4	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	0.50	1	ug/L	KCS
Bromofluoromethane	02	79-20-2	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	8015/7000	10/21/2019 09:30	10/21/2019 15:10	BL00		1.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 19A0004-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Carbon tetrachloride	02	56-23-5	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.50	1.00	1	ug/L	KCS
Chloroacetylene	02	106-96-7	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	02	78-08-3	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-68-3	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.90	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-58-7	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	16.4		0.40	1.00	1	ug/L	KCS
cis-1,2-Dichloropropene	02	10001-01-0	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.20	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.20	0.50	1	ug/L	KCS
Dibromomethane	02	74-96-3	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Dibromofluoromethane	02	35-71-8	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Hexachloroethane	02	78-08-1	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD	C	1.70	10.0	1	ug/L	KCS
o,p'-DDE	02	118881-21-1	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.60	2.00	1	ug/L	KCS
†												
Methylene chloride	02	75-08-2	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		3.00	4.00	1	ug/L	KCS
n-Butane	02	95-47-6	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	02	100-42-0	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.70	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	106-66-5	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10001-02-8	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.20	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	130-57-8	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		1.80	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	2.83		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-68-4	SM/MSD	10/21/2019 15:10	10/21/2019 15:10	BLOD		0.80	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-10

Laboratory Sample ID: 192084-02

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl acetate	02	108-05-4	8260.000	10/21/2019 05:10	10/21/2019 15:10	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	02	75-01-4	8260.000	10/21/2019 05:10	10/21/2019 15:10	1.53		0.50	0.30	1	ug/L	BCB
Ethene, total	02	1330-20-7	8260.000	10/21/2019 05:10	10/21/2019 15:10	BL00		1.00	3.00	1	ug/L	BCB
Sum: 1,2-Dichloroethane-d8 (Sum)	02	96.7 %	70-130	10/21/2019 15:10	10/21/2019 15:10							
Sum: 4-Bromobenzonitrile (Sum)	02	100 %	70-130	10/21/2019 15:10	10/21/2019 15:10							
Sum: Dibromodioxane (Sum)	02	94.5 %	70-130	10/21/2019 15:10	10/21/2019 15:10							
Sum: Toluene-d8 (Sum)	02	99.8 %	70-130	10/21/2019 15:10	10/21/2019 15:10							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-1H

Laboratory Sample ID: 192084-03

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	01	7440-50-6	8000-HC	10/25/2019 10:00	10/24/2019 14:21	BLD		0.0001	0.0002	1	mg/L	SLM

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-14

Laboratory Sample ID: 19A0004-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	01	69-73-9	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	01	71-69-6	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Tetrachloroethene	01	79-09-5	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	4.38		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethene	01	75-35-4	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	88-16-4	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	00	85-59-1	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	1.00	1	ug/L	KCS
1,2-Trichloroethane	01	101-09-2	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	00	78-67-5	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	3.42		0.40	1.00	1	ug/L	KCS
3-Pentanone (MIBK)	01	78-58-2	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		3.00	5.00	1	ug/L	KCS
3-Pentanone (MIBK)	00	98-12-6	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MBO)	00	106-16-1	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-3	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		1.70	5.00	1	ug/L	KCS
Benzene	00	71-43-2	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	1.65		0.40	1.00	1	ug/L	KCS
Bromo-chloroethane	00	74-87-6	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.50	1.00	1	ug/L	KCS
Bromo-dichloroethane	01	79-27-4	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	0.50	1	ug/L	KCS
Bromofluorobenzene	01	75-25-0	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	01	74-87-6	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.50	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	1.18		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-14

Laboratory Sample ID: 19A0004-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-09-3	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.50	0.70	1	ug/L	KCS
Chloromethane	01	74-87-3	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.05	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	01	156-58-2	SM/2000	10/21/2019 15:35	10/21/2019 15:35	0.1		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	1000-1-4-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane:	01	106-96-1	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.25	0.50	1	ug/L	KCS
Monobromochloroethane:	01	74-96-3	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.40	1.00	1	ug/L	KCS
Orthodibromochloroethane	01	75-71-8	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.65	1.00	1	ug/L	KCS
Fluorobenzene	01	100-41-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.40	1.00	1	ug/L	KCS
Isobutylene	01	74-94-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD	C	1.70	10.0	1	ug/L	KCS
m,p-Xylene:	01	106-48-2	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-3	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-8	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-1	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene (PCE)	01	127-18-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	100-98-2	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	01	156-58-1	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	1000-1-0-8	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	106-67-8	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-07-6	SM/2000	10/21/2019 15:35	10/21/2019 15:35	4.58		0.40	1.00	1	ug/L	KCS
Trichlorobromomethane	01	72-69-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-07-4	SM/2000	10/21/2019 15:35	10/21/2019 15:35	0.14		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-14

Laboratory Sample ID: 192004-03

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	01	1000-20-1	SM/MSD	10/21/2019 15:35	10/21/2019 15:35	BLD	1.00	3.00	1		ug/L	WCS
Sum: 1,1-Dichloroethene (Sum)	01	6011-81-3	SM/MSD	10/21/2019 15:35	10/21/2019 15:35							
Sum: 1,1-Dibromoethene (Sum)	01	106-95-8	SM/MSD	10/21/2019 15:35	10/21/2019 15:35							
Sum: 1,1-Dibromoethane (Sum)	01	95-13-2	SM/MSD	10/21/2019 15:35	10/21/2019 15:35							
Sum: Toluene (Sum)	01	95-13-2	SM/MSD	10/21/2019 15:35	10/21/2019 15:35							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-11

Laboratory Sample ID: 192084-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	04	7440-50-6	8000-HC	10/25/2019 10:30	10/24/2019 14:24	BLD		0.0000	0.0000	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-11

Laboratory Sample ID: 192084-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	04	69-73-9	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	0.40	1	ug/L	BCS
1,1,1-Trichloroethene	04	71-69-6	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.60	1.00	1	ug/L	BCS
1,1,2,2-Tetrachloroethane	04	79-34-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.30	0.40	1	ug/L	BCS
1,1,2-Tetrachloroethene	04	79-09-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.50	1.00	1	ug/L	BCS
1,1-Dichloroethane	04	75-34-3	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.60	1.00	1	ug/L	BCS
1,1-Dichloroethylene	04	75-35-4	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.70	1.00	1	ug/L	BCS
1,2-Dichloroethane	04	80-10-4	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS
1,2-Dichloroethene	04	80-58-1	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS
1,2-Dibromoethane	04	107-06-2	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.70	1.00	1	ug/L	BCS
1,2-Dichloropropane	04	78-87-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.80	1.00	1	ug/L	BCS
1,4-Dichlorobenzene	04	106-46-7	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS
2-Butanone (MIBK)	04	75-55-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		3.00	5.00	1	ug/L	BCS
2-Pentanone (MNA)	04	501-78-6	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		2.20	5.00	1	ug/L	BCS
4-Methyl-2-pentanone (MBO)	04	106-10-1	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		1.50	5.00	1	ug/L	BCS
Acetone	04	67-64-1	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		7.00	10.0	1	ug/L	BCS
Acrylonitrile	04	107-13-3	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		1.70	5.00	1	ug/L	BCS
Benzene	04	71-43-2	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS
Bromochloroethane	04	74-97-3	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.50	1.00	1	ug/L	BCS
Bromodichloroethane	04	75-27-4	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	0.50	1	ug/L	BCS
Bromopropane	04	75-25-2	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS
Bromobenzene	04	74-83-9	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.80	1.00	1	ug/L	BCS
Carbon disulfide	04	75-15-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		1.00	10.0	1	ug/L	BCS
Carbon tetrachloride	04	56-23-5	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.50	1.00	1	ug/L	BCS
Chlorobenzene	04	108-90-7	8260.0002	10/21/2019 16:01	10/21/2019 16:01	BL000		0.40	1.00	1	ug/L	BCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-11

Laboratory Sample ID: 19A088-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.70	1.00	1	ug/L	BCB
Chloroform	04	67-66-3	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.50	0.70	1	ug/L	BCB
Chloromethane	04	74-87-3	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.05	1.00	1	ug/L	BCB
m-1,2-Dichloroethane	04	106-68-2	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
m-1,2-Dichloropropane	04	10661-01-0	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.30	1.00	1	ug/L	BCB
Dibromochloromethane	04	124-48-1	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.20	0.50	1	ug/L	BCB
Dibromomethane	04	74-93-3	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
Dichlorodifluoromethane	04	75-71-8	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.05	1.00	1	ug/L	BCB
Difluoromethane	04	100-01-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
Isocyanide	04	74-88-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00	C	1.70	10.0	1	ug/L	BCB
m-p-Xylene	04	106-48-7	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.00	2.00	1	ug/L	BCB
Methylene chloride	04	75-09-2	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		1.00	4.00	1	ug/L	BCB
o-Xylene	04	95-47-8	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
Styrene	04	100-42-5	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	04	127-18-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
Styrene	04	100-42-5	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	04	106-68-2	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.00	1.00	1	ug/L	BCB
trans-1,3-Dichloropropane	04	10661-02-8	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	04	105-17-8	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		1.00	4.00	1	ug/L	BCB
Trichloroethylene	04	79-01-6	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	04	75-68-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.00	1.00	1	ug/L	BCB
Vinyl acetate	04	108-05-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		2.00	10.0	1	ug/L	BCB
Vinyl chloride	04	75-01-4	8000000	10/21/2019 16:00	10/21/2019 16:00	BL00		0.00	0.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: MW-11

Laboratory Sample ID: 192084-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	04	1000-20-1	SM/MSD	10/21/2019 16:01	10/21/2019 16:01	BLND	1.00	3.00	1		ug/L	ecb
Sum: 1,1-Dichloroethene (Sum)	04	64-74-6	20-130	10/21/2019 16:01	10/21/2019 16:01							
Sum: 1,1-Dibromoethene (Sum)	04	79-07-2	20-130	10/21/2019 16:01	10/21/2019 16:01							
Sum: Chloroethene (Sum)	04	75-71-4	20-130	10/21/2019 16:01	10/21/2019 16:01							
Sum: Ethene (Sum)	04	74-84-0	20-130	10/21/2019 16:01	10/21/2019 16:01							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: GUF-1

Laboratory Sample ID: 19A0004-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Cadmium	05	7440-50-9	8000-10C	10/23/2019 10:30	10/24/2019 14:29	0.0005		0.0005	0.0010	1	mg/L	lms

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: GUP-1

Laboratory Sample ID: 19A0004-05

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1-Trichloroethane	05	69-73-9	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	05	71-69-9	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Tetrachloroethene	05	79-00-5	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	1.31		0.40	1.00	1	ug/L	KCS
1,1-Dichloroethene	05	71-71-4	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	88-16-4	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	84-74-2	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	05	107-06-2	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	0.05		0.40	1.00	1	ug/L	KCS
1-Pentene (M+)	05	78-28-2	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		3.00	5.00	1	ug/L	KCS
1-Pentene (M-)	05	69-17-8	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		2.20	5.00	1	ug/L	KCS
1-Methyl-2-pentene (M+)	05	106-16-1	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-3	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	1.80		0.40	1.00	1	ug/L	KCS
Bromoacetylene	05	74-87-6	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	05	79-27-4	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	0.50	1	ug/L	KCS
Bromofluorane	05	75-25-0	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	05	74-81-6	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		1.80	5.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	BL00		0.30	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SM/MSD	10/21/2019 16:26	10/21/2019 16:26	1.31		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: GUP-1

Laboratory Sample ID: 19A0004-05

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-09-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	0.07	J	0.70	1.00	1	ug/L	KCS
Chloroform	05	67-68-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.30	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.05	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	106-68-2	8260.0002	10/21/2019 16:26	10/21/2019 16:26	4.75		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10661-24-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-46-1	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-96-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Dibromofluoromethane	05	75-71-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.95	1.00	1	ug/L	KCS
Fluoromethane	05	50-41-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Isobutane	05	74-98-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00	C	1.70	10.0	1	ug/L	KCS
n-pentane	05	106-97-2	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.60	2.00	1	ug/L	KCS
Methyl acetate	05	75-06-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		3.00	4.00	1	ug/L	KCS
Propyl acetate	05	99-36-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.80	1.00	1	ug/L	KCS
o-Xylene	05	95-47-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Styrene	05	100-42-0	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	106-68-1	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.80	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10661-20-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.30	1.00	1	ug/L	KCS
trans-1,8-Dichloro-2-butene	05	119-52-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		1.80	6.00	1	ug/L	KCS
Trichloroethylene	05	79-07-8	8260.0002	10/21/2019 16:26	10/21/2019 16:26	0.00	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-68-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		0.80	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	BL00		2.00	10.0	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: GUF-1

Laboratory Sample ID: 19A0884-05

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Vinyl chloride	05	75-01-4	8260.0002	10/21/2019 16:26	10/21/2019 16:26	0.00	0.00	0.00	1		ug/L	WCS
Ethene, Total	05	1330-20-7	8260.0002	10/21/2019 16:26	10/21/2019 16:26	0.00	1.00	0.00	1		ug/L	WCS
Sum: 1,1-Dichloroethene-d8 (Sur)	05	66-1 %	29-130	10/21/2019 16:26	10/21/2019 16:26							
Sum: 4-Bromochlorobenzene (Sur)	05	103 %	29-130	10/21/2019 16:26	10/21/2019 16:26							
Sum: 1,1-Dibromoethene-d8 (Sur)	05	66-1 %	29-130	10/21/2019 16:26	10/21/2019 16:26							
Sum: toluene-d8 (Sur)	05	99-2 %	70-130	10/21/2019 16:26	10/21/2019 16:26							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michelle Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-15A

Laboratory Sample ID: 19A0004-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	04	7490-95-9	847475A	10/25/2019 17:00	10/24/2019 12:10	BLD		0.00001	0.00001	1	ng/L	MSL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: QLP-15A

Laboratory Sample ID: 19A0004-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	00	69-73-9	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethene	00	71-69-8	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	00	79-34-5	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.30	0.40	1	ug/L	KCS
1,1,2-Tetrachloroethene	00	79-00-5	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	00	70-34-2	8260.000	10/21/2019 16:52	10/21/2019 16:52	4.87		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethene	00	71-71-4	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	00	66-70-4	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethene	00	85-50-1	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
1,2-Trichloroethane	00	101-08-2	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	00	76-67-5	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	00	106-46-7	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	00	78-93-3	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		3.00	5.00	1	ug/L	KCS
2-Heptanone (MIBK)	00	109-76-8	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	00	109-10-1	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		1.50	5.00	1	ug/L	KCS
Acetone	00	67-64-1	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		7.00	10.0	1	ug/L	KCS
Acrylonitrile	00	107-13-3	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		1.70	5.00	1	ug/L	KCS
Benzene	00	71-43-2	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
Bromochloroethane	00	74-97-5	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	00	79-27-4	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	0.50	1	ug/L	KCS
Bromobenzene	00	70-25-2	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS
Bromomethane	00	74-83-9	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.60	1.00	1	ug/L	KCS
Carbon disulfide	00	75-15-8	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		1.80	5.00	1	ug/L	KCS
Carbon tetrachloride	00	54-71-5	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.50	1.00	1	ug/L	KCS
Chlorobenzene	00	108-90-7	8260.000	10/21/2019 16:52	10/21/2019 16:52	BL00		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: OLP-15A

Laboratory Sample ID: 19A0004-04

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	00	75-09-3	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	00	67-66-3	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.50	0.70	1	ug/L	KCS
Chloromethane	00	74-87-3	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.05	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	00	156-88-2	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	ND		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	00	1000-1-4-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloroethane	00	106-96-1	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.25	0.50	1	ug/L	KCS
Monobromochloroethane	00	74-96-3	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.40	1.00	1	ug/L	KCS
Orthodibromochloroethane	00	75-71-8	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.65	1.00	1	ug/L	KCS
Fluorobenzene	00	100-41-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.40	1.00	1	ug/L	KCS
Isobutylene	00	74-94-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD	C	1.70	10.0	1	ug/L	KCS
m,p-Xylene	00	106-48-7	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	00	75-09-3	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	00	95-47-8	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	00	100-42-5	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.40	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene (PCE)	00	127-18-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	00	108-88-2	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,3-Dichloroethylene	00	156-88-1	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	00	1000-1-4-8	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	00	106-63-8	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	00	79-07-6	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	ND		0.40	1.00	1	ug/L	KCS
Trichlorobromomethane	00	72-69-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	00	108-05-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	00	75-01-4	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		0.50	0.50	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: OLP-15A

Laboratory Sample ID: 19A0004-04

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatiles Organic Compounds by GCMS												
Hydroc. Total	06	1000-20-1	SM/MSD	10/21/2019 16:52	10/21/2019 16:52	BLOD		1.00	3.00	1	ug/L	ECN
Sum: 1,1-Dichloroethene (Sum)	06	6014-35-7	20-120	10/21/2019 16:52	10/21/2019 16:52							
Sum: 1,1-Dibromoethene (Sum)	06	1069-79-6	20-120	10/21/2019 16:52	10/21/2019 16:52							
Sum: Dichlorodifluoroethane (Sum)	06	681-24-9	20-120	10/21/2019 16:52	10/21/2019 16:52							
Sum: Trichloroeth (Sum)	06	691-88-2	20-120	10/21/2019 16:52	10/21/2019 16:52							
Head Space Analysis by GC												
Methane	06RE1	74-82-6	RSK175M	10/21/2019 13:54	10/21/2019 13:54	264		2.9	5.0	1	ug/L	IRM
Sum: Acetylene (Sum)	06RE1	132-65-9	70-130	10/21/2019 13:54	10/21/2019 13:54							S
Wet Chemistry Analysis												
Alkalinity	06	NA	SM22 23200-2011	10/31/2019 15:46	10/31/2019 15:46	163		5.0	5.0	1	mg/L	JH
Chloride	06	16887-00-0	EPA300.0 R2-1	10/28/2019 22:45	10/28/2019 22:45	76.4		0.5	1.0	1	mg/L	BG
Nitrate as N	06	14797-55-0	Calc	11/01/2019 13:40	11/01/2019 13:40	BLOD		0.110	0.150	1	mg/L	TDL
Nitrate + Nitrite as N	06RE1	NA	SM22 4500-NO3F- 2011	11/01/2019 13:40	11/01/2019 13:40	BLOD		0.10	0.10	1	mg/L	TDL
Nitrite as N	06	14797-45-0	SM22 4500-NO2F- 2011	10/16/2019 09:15	10/16/2019 09:15	BLOD		0.01	0.05	1	mg/L	WAM
Sulfate	06	14808-29-8	EPA300.0 R2-1	10/28/2019 22:45	10/28/2019 22:45	3.6		0.5	1.0	1	mg/L	BG
Sulfide	06	14808-29-8	SM5019	10/24/2019 13:00	10/24/2019 13:00	BLOD		0.80	1.00	1	mg/L	TDL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-43

Laboratory Sample ID: 19A0004-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	BT	7439-97-2	847475A	10/25/2019 17:00	10/24/2019 12:20	BLD		0.00001	0.00001	1	ng/L	MSL

Certificate of Analysis

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Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-43

Laboratory Sample ID: 19A0004-07

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	07	69-73-9	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	07	79-34-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Tetrachloroethane	07	79-09-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	79-34-9	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	71-71-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	88-16-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	85-55-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	79-67-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MIBK)	07	79-59-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		3.00	5.00	1	ug/L	KCS
2-Heptanone (MIBK)	07	109-79-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	109-19-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloroethane	07	74-97-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloroethane	07	79-27-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	0.50	1	ug/L	KCS
Bromobenzene	07	79-26-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.60	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		1.80	5.00	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: OLP-43

Laboratory Sample ID: 19A0004-07

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-09-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.75	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	0.75	1	ug/L	KCS
Chloromethane	07	74-87-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.85	1.00	1	ug/L	KCS
cis-1,3-Dichloroethylene	07	156-88-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	0.03	J	0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	1000-1-4-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	1.00	1	ug/L	KCS
Dibromochloroethane	07	106-96-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.25	0.50	1	ug/L	KCS
Monobromochloroethane	07	74-95-3	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Orthodibromochloroethane	07	75-71-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.65	1.00	1	ug/L	KCS
Trichloroethene	07	100-41-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Isobutylene	07	74-96-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD	C	1.70	10.0	1	ug/L	KCS
o,p-DDE	07	17865-25-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	07	100-42-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
trans-Nonachlor (PCE)	07	127-18-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-2	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-86-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	1000-1-0-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	106-67-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		1.80	6.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorobromomethane	07	75-99-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.60	1.00	1	ug/L	KCS
Vinyl acetate	07	100-62-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLOD		0.50	0.75	1	ug/L	KCS

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-43

Laboratory Sample ID: 1920094-07

Parameter	Sampling	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatiles Organic Compounds by GCMS												
Hydroc. Total	BT	1000-20-1	SM/MSD	10/21/2019 17:18	10/21/2019 17:18	BLD	1.00	3.00	1		ug/L	WJS
Sum: 1,1-Dichloroethene (Sum)	BT	67-74-6	SM/MSD	10/21/2019 17:18	10/21/2019 17:18							
Sum: 1,1-Dibromoethene (Sum)	BT	106-96-8	SM/MSD	10/21/2019 17:18	10/21/2019 17:18							
Sum: 1,1-Dibromoethane (Sum)	BT	94-5-5	SM/MSD	10/21/2019 17:18	10/21/2019 17:18							
Sum: Toluene (Sum)	BT	98-06-6	SM/MSD	10/21/2019 17:18	10/21/2019 17:18							

Certificate of Analysis

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Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-43

Laboratory Sample ID: 192089-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Lead Spec Analysis by GC												
Method	07	7439974	85617MM	10/21/2019 11:30	10/21/2019 11:30	BLD		2.0	5.0	1	ug/L	MSM
Run Analyzed Client	07	100 %	00 430	10/20/2019 11:30	10/20/2019 11:30							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-43

Laboratory Sample ID: 192089-07

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	07	na	SM22 20088-2011	10/21/2019 05:40	10/21/2019 15:40	14.8		5.0	5.0	1	mg/L	JH
Chloride	07	60817-09-8	EPA300.0 R2.1	10/28/2019 23:11	10/28/2019 23:11	4.2		0.5	1.0	1	mg/L	BG
Nitrate as N	07	14797-05-0	Cdk	11/01/2019 13:43	11/01/2019 13:43	BL00		0.100	0.100	1	mg/L	TKL
Nitrate-Nitrite as N	07	na	SM22 4500-NO3F-2011	11/01/2019 13:43	11/01/2019 13:43	BL00		0.10	0.10	1	mg/L	TKL
Nitrite as N	07	14797-05-0	SM22 4500-NO2D-2011	10/16/2019 09:15	10/16/2019 09:15	BL00		0.01	0.05	1	mg/L	WMM
Sulfate	07	14808-79-8	EPA300.0 R2.1	10/28/2019 23:11	10/28/2019 23:11	7.5		0.5	1.0	1	mg/L	BG
Sulfide	07	18496-25-8	SW9215	10/24/2019 13:00	10/24/2019 13:00	BL00		0.80	1.00	1	mg/L	TKL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-41

Laboratory Sample ID: 19A004-08

Parameter	Sample ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 8000/7000 Series Methods												
Mercury	08	7439-97-2	847475A	10/25/2019 17:00	10/24/2019 12:24	BLD		0.00001	0.00001	1	ng/L	MSL

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-41

Laboratory Sample ID: 19A004-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
1,1,1-Trichloroethane	08	69-73-9	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	0.40	1	ug/L	BCB
1,1,1-Trichloroethene	08	71-69-6	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.60	1.00	1	ug/L	BCB
1,1,2,2-Tetrachloroethane	08	79-34-5	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.30	0.40	1	ug/L	BCB
1,1,2-Tetrachloroethene	08	79-09-5	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.50	1.00	1	ug/L	BCB
1,1-Dichloroethane	08	79-34-2	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.60	1.00	1	ug/L	BCB
1,1-Dichloroethylene	08	79-36-4	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloroethane	08	95-50-4	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloroethene	08	95-50-1	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
1,2-Dichloropropane	08	107-06-2	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.70	1.00	1	ug/L	BCB
1,2-Dichloropropane	08	78-87-9	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.80	1.00	1	ug/L	BCB
1,4-Dichlorobenzene	08	106-46-7	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
2-Butanone (MIBK)	08	79-59-5	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		3.00	5.00	1	ug/L	BCB
2-Butanone (MIBK)	08	591-78-6	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		2.20	5.00	1	ug/L	BCB
4-Methyl-2-pentanone (MBO)	08	106-10-1	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		1.50	3.00	1	ug/L	BCB
Acetone	08	67-64-1	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		7.00	10.0	1	ug/L	BCB
Acrylonitrile	08	107-13-3	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		1.70	3.00	1	ug/L	BCB
Benzene	08	71-43-2	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Bromochloroethane	08	74-97-3	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.50	1.00	1	ug/L	BCB
Bromodichloroethane	08	79-27-4	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	0.50	1	ug/L	BCB
Bromobenzene	08	79-25-2	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Bromonitroethane	08	74-83-9	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.80	1.00	1	ug/L	BCB
Carbon disulfide	08	75-15-5	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		1.00	10.0	1	ug/L	BCB
Carbon tetrachloride	08	56-23-5	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.50	1.00	1	ug/L	BCB
Chloroethane	08	108-96-7	8260.0002	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: GUP-41

Laboratory Sample ID: 19A0004-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Chloroethane	08	75-00-3	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.70	1.00	1	ug/L	BCB
Chloroform	08	67-66-3	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.50	0.70	1	ug/L	BCB
Chloromethane	08	74-87-3	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.05	1.00	1	ug/L	BCB
cis-1,2-Dichloroethylene	08	156-88-2	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
cis-1,2-Dichloropropane	08	10661-01-0	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.30	1.00	1	ug/L	BCB
Dibromochloromethane	08	124-48-1	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.20	0.50	1	ug/L	BCB
Dibromomethane	08	74-93-3	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Dibromofluoromethane	08	75-71-8	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.05	1.00	1	ug/L	BCB
Dibromopropane	08	100-81-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Dibromomethane	08	74-88-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000	C	1.70	10.0	1	ug/L	BCB
o,p-Xylenes	08	17498-17-5	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.00	2.00	1	ug/L	BCB
Methylene chloride	08	75-09-2	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		1.00	4.00	1	ug/L	BCB
m-Xylene	08	95-47-8	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Styrene	08	100-42-5	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
trans-1,2-Dichloroethylene	08	127-18-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Styrene	08	100-42-5	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.00	1.00	1	ug/L	BCB
trans-1,2-Dichloroethane	08	156-88-1	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.60	1.00	1	ug/L	BCB
trans-1,3-Dichloropropane	08	10661-02-8	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.30	1.00	1	ug/L	BCB
trans-1,4-Dichloro-2-butene	08	105-17-8	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		1.00	4.00	1	ug/L	BCB
Trichloroethylene	08	79-01-6	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.40	1.00	1	ug/L	BCB
Trichlorofluoromethane	08	75-68-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.00	1.00	1	ug/L	BCB
Vinyl acetate	08	100-00-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		2.00	10.0	1	ug/L	BCB
Vinyl chloride	08	75-01-4	8000000	10/21/2019 17:42	10/21/2019 17:43	BL000		0.00	0.00	1	ug/L	BCB

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Client Sample ID: CLP-41

Laboratory Sample ID: 192059-08

Parameter	Comp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	LOEL	LOD	LOQ	DF	Units	Analyst
Volatle Organic Compounds by GCMS												
Hydroc. Total	08	1000-20-1	SM/MSD	10/21/2019 17:42	10/21/2019 17:43	BLD	1.00	3.00	1		ug/L	WJS
Sum: 1,1-Dichloroethene (Sum)	08	6017-91-1	SM/MSD	10/21/2019 17:43	10/21/2019 17:43							
Sum: 1,1-Dichloroethane (Sum)	08	6014-35-3	SM/MSD	10/21/2019 17:43	10/21/2019 17:43							
Sum: Chloroethene (Sum)	08	7511-63-3	SM/MSD	10/21/2019 17:43	10/21/2019 17:43							
Sum: Ethene (Sum)	08	7484-02-1	SM/MSD	10/21/2019 17:43	10/21/2019 17:43							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Metals (Total) by EPA 8000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0713 - SW7470A										
Blank (BCJ0713-BLK1)				Prepared: 10/15/2019 Analyzed: 10/21/2019						
Mercury	BLOD	0.00020	mg/L							
LCS (BCJ0713-BS1)				Prepared: 10/15/2019 Analyzed: 10/21/2019						
Mercury	0.00265	0.00020	mg/L	0.00250		106	80-120			
LCS Dup (BCJ0713-BS1#)				Prepared: 10/15/2019 Analyzed: 10/21/2019						
Mercury	0.00198	0.00020	mg/L	0.00250		102	80-120	3.41	20	
Matrix Spike (BCJ0713-MS1)				Source: 18J0701-01 Prepared: 10/15/2019 Analyzed: 10/21/2019						
Mercury	0.00196	0.00020	mg/L	0.00250	BLOD	74.4	80-120			M
Matrix Spike Dup (BCJ0713-MS1#)				Source: 18J0701-01 Prepared: 10/15/2019 Analyzed: 10/21/2019						
Mercury	0.00189	0.00020	mg/L	0.00250	BLOD	75.5	80-120	1.54	20	M
Batch BCJ0711 - SW4200701A										
Blank (BCJ0711-BLK1)				Prepared: 10/15/2019 Analyzed: 10/22/2019						
Cobalt	BLOD	0.0040	mg/L							
LCS (BCJ0711-BS1)				Prepared: 10/15/2019 Analyzed: 10/22/2019						
Cobalt	0.119	0.0040	mg/L	0.100		104	80-120			
LCS Dup (BCJ0711-BS1#)				Prepared: 10/15/2019 Analyzed: 10/22/2019						
Cobalt	0.111	0.0040	mg/L	0.100		102	80-120	1.48	20	
Matrix Spike (BCJ0711-MS1)				Source: 18J0848-01 Prepared: 10/15/2019 Analyzed: 10/22/2019						
Cobalt	0.127	0.0040	mg/L	0.100	0.100	102	75-125			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Method (Test) by EPA 8000-1000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch BCJ0791 - EPA200.2/R2.8										
Matrix Spike (BCJ0791-M50)										
Source: 19J0848-05 Prepared: 10/19/2019 Analyzed: 10/22/2019										
Cobalt	0.528	0.0040	mg/L	0.500	BLOD	100	75-125			
Matrix Spike Dup (BCJ0791-M501)										
Source: 19J0848-01 Prepared: 10/19/2019 Analyzed: 10/22/2019										
Cobalt	0.534	0.0040	mg/L	0.500	0.0000	101	75-125	1.47	20	
Matrix Spike Dup (BCJ0791-M502)										
Source: 19J0848-06 Prepared: 10/19/2019 Analyzed: 10/22/2019										
Cobalt	0.528	0.0040	mg/L	0.500	BLOD	100	75-125	0.0331	20	
Batch BCJ0902 - EPA200.2/R2.8										
Blank (BCJ0902-BLK1)										
Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	BLOD	0.0040	mg/L							
LCS (BCJ0902-B51)										
Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.482	0.0040	mg/L	0.500		98.5	80-120			
LCS Dup (BCJ0902-B501)										
Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.479	0.0040	mg/L	0.500		95.8	80-120	0.762	20	
Matrix Spike (BCJ0902-M51)										
Source: 19J0896-01 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.403	0.0040	mg/L	0.500	BLOD	92.0	75-125			
Matrix Spike (BCJ0902-M52)										
Source: 19J0896-03 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.478	0.0040	mg/L	0.500	BLOD	95.6	75-125			
Matrix Spike Dup (BCJ0902-M501)										
Source: 19J0896-01 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.458	0.0040	mg/L	0.500	BLOD	91.6	75-125	1.07	20	

Certificate of Analysis

Client Name: Golden Associates, Inc.
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Date Issued: 11/5/2019 3:39:34PM

Method (Title) by EPA Method Number - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch BCJ0902 - EPA200.2/R2.8										
Matrix Spike Dup (BCJ0902-MSD2) Source: 19J1035-03 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Cobalt	0.491	0.0040	mg/L	0.500	BLOD	91.2	75-125	7.77	20	
Batch BCJ0916 - SW7470A										
Blank (BCJ0916-BLK1) Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	BLD	0.00020	mg/L							
LC8 (BCJ0916-B81) Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00258	0.00020	mg/L	0.00250		103	80-120			
LC8 Dup (BCJ0916-B801) Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00259	0.00020	mg/L	0.00250		104	80-120	0.447	20	
Matrix Spike (BCJ0916-M81) Source: 19J0881-11 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00268	0.00020	mg/L	0.00250	BLOD	108	80-120			
Matrix Spike (BCJ0916-M82) Source: 19J0881-15 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00266	0.00020	mg/L	0.00250	BLOD	106	80-120			
Matrix Spike Dup (BCJ0916-MSD1) Source: 19J0881-11 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00312	0.00020	mg/L	0.00250	BLOD	125	80-120	16.0	20	M
Matrix Spike Dup (BCJ0916-MSD2) Source: 19J0881-15 Prepared: 10/23/2019 Analyzed: 10/24/2019										
Mercury	0.00292	0.00020	mg/L	0.00250	BLOD	105	80-120	1.48	20	



Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0722 - SW5030B										
Blank (BCJ0722-BLK1)										
Prepared & Analyzed: 10/18/2019										
1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLD	1.00	ug/L							
1,1-Dichloroethene	BLD	1.00	ug/L							
1,2-Dichloroethane	BLD	1.00	ug/L							
1,2-Dichloroethene	BLD	1.00	ug/L							
1,2-Dichloropropane	BLD	1.00	ug/L							
1,4-Dichlorobenzene	BLD	1.00	ug/L							
1,1,1-Trichloroethene	BLD	5.00	ug/L							
2-Hexanone (MBO)	BLD	5.00	ug/L							
4-Methyl-2-pentanone (MBO)	BLD	5.00	ug/L							
Acetone	BLD	10.0	ug/L							
Acrylonitrile	BLD	5.00	ug/L							
Benzene	BLD	1.00	ug/L							
Bromochloromethane	BLD	1.00	ug/L							
Bromoethane	BLD	0.50	ug/L							
Bromobenzene	BLD	1.00	ug/L							
Bromomethane	BLD	1.00	ug/L							
Carbon disulfide	BLD	10.0	ug/L							
Carbon tetrachloride	BLD	1.00	ug/L							
Chlorobenzene	BLD	1.00	ug/L							
Chloroethane	BLD	1.00	ug/L							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: GC-072 - 090008

Blank (BL0701-BL47)

Prepared & Analyzed: 10/18/2019

Chloroform	85.00	0.50	ug/L							
Dichloromethane	85.00	1.00	ug/L							
m-1,2-Dichlorobenzene	85.00	1.00	ug/L							
o-1,2-Dichlorobenzene	85.00	1.00	ug/L							
1,1-Dichloroethane	85.00	0.50	ug/L							
Bromochloromethane	85.00	1.00	ug/L							
Ethylchloride	85.00	1.00	ug/L							
Isopropylalcohol	85.00	10.0	ug/L							
m-tol-Xylene	85.00	2.00	ug/L							
Methyl-tert-butyl	85.00	4.00	ug/L							
n-Butane	85.00	1.00	ug/L							
Heptane	85.00	1.00	ug/L							
Tetrahydrofuran (THF)	85.00	1.00	ug/L							
Hexane	85.00	1.00	ug/L							
trans-1,2-Dichloroethene	85.00	1.00	ug/L							
trans-1,3-Dichloropropene	85.00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	85.00	4.00	ug/L							
Trichloroethylene	85.00	1.00	ug/L							
Trichlorofluoromethane	85.00	1.00	ug/L							
Vinyl acetate	85.00	10.0	ug/L							
Vinyl chloride	85.00	0.50	ug/L							
Xylenes, Total	85.00	2.00	ug/L							
<hr/>										
Sum 1,2-Dichloroethene (Sum)	49.7		ug/L	50.0		97.4	70-120			
Sum 4-Bromochloromethane (Sum)	49.9		ug/L	50.0		99.8	70-120			
Sum 1,1-Dichloroethane (Sum)	49.4		ug/L	50.0		98.8	70-120			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: GC-8772 - 890008										
Blank (GC-8772-BLANK)										
Prepared & Analyzed: 10/18/2019										
Sum: Ethanol-d11 (Sum)	46.7		ug/L	50.0		96.5	70-130			
LC8 (GC-8772-891)										
Prepared & Analyzed: 10/18/2019										
1,1,1,2-Tetrachloroethane	41.7	0.4	ug/L	50.0		87.4	80-130			
1,1,1-Trichloroethane	45.9	1	ug/L	50.0		91.8	65-130			
1,1,2,2-Tetrachloroethane	42.1	0.4	ug/L	50.0		84.2	65-130			
1,1,2-Trichloroethane	44.8	1	ug/L	50.0		89.6	75-130			
1,1-Dichloroethane	44.2	1	ug/L	50.0		88.4	75-130			
1,1-Dichloroethylene	45.7	1	ug/L	50.0		91.4	75-130			
1,2,3-Trichloropropane	30.6	1	ug/L	50.0		79.1	75-130			
1,2-Dichlorobenzene	43.7	1	ug/L	50.0		87.4	75-130			
1,2-Dichloroethane	40.7	1	ug/L	50.0		81.4	75-130			
1,2-Dichloropropane	40.7	1	ug/L	50.0		81.4	75-130			
1,4-Dichlorobenzene	41.7	1	ug/L	50.0		83.4	75-130			
2-Butanone (MEK)	43.2	5	ug/L	50.0		86.4	35-130			
2-Hexanone (MEK)	38.5	5	ug/L	50.0		77.0	55-130			
4 Methyl 2-pentanone (MEK)	41.6	5	ug/L	50.0		83.2	65-130			
Acetone	49.8	10	ug/L	50.0		99.6	40-140			
Acrylonitrile	506	5	ug/L	250		100	75-130			
Benzene	41.7	1	ug/L	50.0		83.4	65-130			
Bromochloromethane	45.7	1	ug/L	50.0		91.4	65-130			
Bromodichloromethane	44.2	0.5	ug/L	50.0		88.4	75-130			
Bromobenzene	41.4	1	ug/L	50.0		82.8	75-130			
Bromomethane	33.8	1	ug/L	50.0		67.6	30-145			
Carbon Disulfide	41.2	10	ug/L	50.0		82.4	35-130			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Analyte Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: GC-0721 - 090008										
LC8 (GC/MS)-090										
Prepared & Analyzed: 10/29/2019										
Carbon tetrachloride	86.4	1	ug/L	86.0		97.7	85-100			
Chlorobenzene	85.2	1	ug/L	86.0		98.0	85-100			
Chloroethane	85.2	1	ug/L	86.0		98.4	85-100			
Chloroform	40.0	0.5	ug/L	40.0		47.4	40-120			
Chloroform-d2	40.7	1	ug/L	40.0		81.4	80-120			
cis-1,2-Dichloroethane	85.0	1	ug/L	86.0		98.0	79-120			
cis-1,3-Dichloropropene	83.4	1	ug/L	86.0		96.7	79-100			
Dibromochloromethane	47.3	0.5	ug/L	50.0		94.6	60-100			
Dibromomethane	44.1	1	ug/L	44.0		94.1	75-100			
1,1-Difluoroethane	47.0	1	ug/L	46.0		97.9	75-120			
1,1,1-Trifluoroethane	57.8	2	ug/L	58.0		97.8	75-100			
1,1,1,2-Tetrafluoroethane	44.0	4	ug/L	44.0		99.4	55-100			
n-Butane	84.0	1	ug/L	82.0		98.1	80-120			
Butane	43.1	1	ug/L	43.0		99.3	50-120			
1,1,1-Trichloroethylene (TCE)	70.0	1	ug/L	70.0		74.0	45-100			
Butene	44.1	1	ug/L	43.0		98.2	75-100			
trans-1,2-Dichloroethane	45.2	1	ug/L	46.0		98.5	60-100			
trans-1,3-Dichloropropene	40.5	1	ug/L	40.0		99.4	55-100			
Trichloroethylene	45.0	1	ug/L	46.0		97.8	70-120			
Trichlorofluoromethane	41.7	1	ug/L	40.0		92.8	60-100			
Vinyl chloride	46.7	0.5	ug/L	46.0		93.3	50-100			
Sum 1,3-Dichloropropene (Sum)	47.4		ug/L	50.0		94.8	70-100			
Sum 4-Bromodibromomethane (Sum)	49.2		ug/L	50.0		99.0	70-100			
Sum Dibromochloromethane (Sum)	48.5		ug/L	50.0		97.1	70-100			
Sum Ethane (Sum)	46.7		ug/L	50.0		93.0	70-100			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Duplicate (BCJ0722-DUP1)	Source: 19J0840-02		Prepared & Analyzed: 10/19/2019			
1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L	BL000	NA	30
1,1,1-Trichloroethane	BLOD	1.00	ug/L	BL000	NA	30
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L	BL000	NA	30
1,1,2-Trichloroethane	BLOD	1.00	ug/L	BL000	NA	30
1,1-Dichloroethane	3.25	1.00	ug/L	3.13	3.76	30
1,1-Dichloroethylene	BL000	1.00	ug/L	BL000	NA	30
1,2,3-Trichloropropane	BLOD	1.00	ug/L	BL000	NA	30
1,2-Dichlorobenzene	1.67	1.00	ug/L	1.38	19.0	30
1,2-Dichloroethane	BL000	1.00	ug/L	BL000	NA	30
1,2-Dichloropropane	BL000	1.00	ug/L	BL000	NA	30
1,4-Dichlorobenzene	17.7	1.00	ug/L	15.7	12.4	30
2-Butanone (MEK)	BL000	5.00	ug/L	BL000	NA	30
2-Hexanone (MEK)	BL000	5.00	ug/L	BL000	NA	30
4 Methyl 2 pentanone (MEK)	BL000	5.00	ug/L	BL000	NA	30
Acetone	10.4	10.0	ug/L	9.41	NA	30
Acrylonitrile	BL000	5.00	ug/L	BL000	NA	30
Benzene	1.50	1.00	ug/L	1.87	1.50	30
Bromochloroethane	BL000	1.00	ug/L	BL000	NA	30
Bromoethane	BL000	0.50	ug/L	BL000	NA	30
Bromobenzene	BL000	1.00	ug/L	BL000	NA	30
Bromomethane	BL000	1.00	ug/L	BL000	NA	30
Carbon disulfide	BL000	10.0	ug/L	BL000	NA	30
Carbon tetrachloride	BL000	1.00	ug/L	BL000	NA	30
Chlorobenzene	11.8	1.00	ug/L	14.7	8.25	30
Chloroethane	BL000	1.00	ug/L	8.81	NA	30

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatiles Organics Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 19-0721 - 1903008

Duplicate (ICAP/ISUP)	Source: 190940-02	Prepared & Analyzed: 10/10/2019								
Chloroform	85.00	0.50	ug/L		85.00			NA	30	
Chloroethane	85.00	1.00	ug/L		85.00			NA	30	
iso-1,2-Dichloroethane	4.88	1.00	ug/L		4.88			4.88	30	
iso-1,3-Dichloropropane	85.00	1.00	ug/L		85.00			NA	30	
Dibromochloroethane	85.00	0.50	ug/L		85.00			NA	30	
Dibromomethane	85.00	1.00	ug/L		85.00			NA	30	
Ethylbenzene	85.00	1.00	ug/L		85.00			NA	30	
Isoprene	85.00	10.0	ug/L		85.00			NA	30	
o-tol-Xylene	85.00	2.00	ug/L		85.00			NA	30	
m-Xylene (ortho)	85.00	4.00	ug/L		85.00			NA	30	
p-Xylene	85.00	1.00	ug/L		85.00			NA	30	
Styrene	85.00	1.00	ug/L		85.00			NA	30	
Tetrahydrofuran (THF)	85.00	1.00	ug/L		85.00			NA	30	
Toluene	85.00	1.00	ug/L		85.00			NA	30	
trans-1,2-Dichloroethane	85.00	1.00	ug/L		85.00			NA	30	
trans-1,3-Dichloropropane	85.00	1.00	ug/L		85.00			NA	30	
trans-1,4-Dichloro-2-butene	85.00	4.00	ug/L		85.00			NA	30	
Trichloroethylene	1.75	1.00	ug/L		1.85			6.22	30	
Trichlorofluoromethane	85.00	1.00	ug/L		85.00			NA	30	
Vinyl acetate	85.00	10.0	ug/L		85.00			NA	30	
Vinyl chloride	85.00	0.50	ug/L		85.00			NA	30	
Xylenes, Total	85.00	2.00	ug/L		85.00			NA	30	
Sum 1,2-Dichloroethane-ol (Clay)	49.8		ug/L	50.0		93.2	79.10%			
Sum 4-Bromofluorobenzene (Clay)	49.8		ug/L	50.0		97.1	79.10%			
Sum 1,2-Dibromofluorobenzene (Clay)	49.8		ug/L	50.0		97.8	79.10%			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0722 - SW5030B										
Duplicate (BCJ0722-DUP1)										
		Source: 19J0840-02			Prepared & Analyzed: 10/18/2019					
<i>Surr. Toluene-d8 (Surr)</i>										
	48.2		ug/L	50.0		96.4	70-130			
Matrix Spike (BCJ0722-MS1)										
		Source: 19J0840-02			Prepared & Analyzed: 10/18/2019					
1,1,1,2-Tetrachloroethane	46.0	0.4	ug/L	50.0	BL00	92.1	80-130			
1,1,1-Trichloroethane	45.3	1	ug/L	50.0	BL00	90.6	65-130			
1,1,2,2-Tetrachloroethane	48.1	0.4	ug/L	50.0	BL00	96.2	65-130			
1,1,2-Trichloroethane	45.9	1	ug/L	50.0	BL00	91.8	75-130			
1,1-Dichloroethane	47.0	1	ug/L	50.0	3.01	97.8	75-130			
1,1-Dichloroethylene	45.1	1	ug/L	50.0	BL00	90.2	75-130			
1,2,3-Trichloropropane	42.8	1	ug/L	50.0	BL00	85.6	75-130			
1,2-Dichlorobenzene	46.9	1	ug/L	50.0	1.28	91.9	75-130			
1,2-Dichloroethane	41.4	1	ug/L	50.0	BL00	82.8	75-130			
1,2-Dichloropropane	43.2	1	ug/L	50.0	BL00	86.4	75-130			
1,4-Dichlorobenzene	50.9	1	ug/L	50.0	16.7	98.8	75-130			
2-Butanone (MEK)	44.6	5	ug/L	50.0	BL00	89.2	35-130			
2-Hexanone (MEK)	45.0	5	ug/L	50.0	BL00	90.0	55-130			
4 Methyl 2-pentanone (MEK)	46.1	5	ug/L	50.0	BL00	92.2	65-130			
Acetone	80.4	10	ug/L	50.0	9.91	162	40-140			
Acrylonitrile	311	5	ug/L	250	BL00	124	75-130			
Benzene	47.3	1	ug/L	50.0	1.87	94.6	65-130			
Bromochloromethane	46.4	1	ug/L	50.0	BL00	92.8	65-130			
Bromodichloromethane	44.7	0.5	ug/L	50.0	BL00	89.4	75-130			
Bromothane	44.8	1	ug/L	50.0	BL00	89.6	75-130			
Bromotrifluoride	28.8	1	ug/L	50.0	BL00	57.6	30-140			
Carbon Disulfide	29.2	10	ug/L	50.0	BL00	58.4	35-140			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: GC-0772 - 0910008										
Matrix Spike (GC-0772-M31)										
Source: 160860-02 Prepared & Analyzed: 10/10/2019										
Carbon tetrachloride	47.8	1	ug/L	50.0	55.00	99.8	95-100			
Chloroform	51.2	1	ug/L	50.0	54.7	97.8	95-100			
Chloroethane	48.4	1	ug/L	50.0	4.81	79.1	95-100			
Chlorobenzene	49.4	0.5	ug/L	50.0	50.00	99.9	95-100			
1,1-Dichloroethane	58.5	1	ug/L	50.0	55.00	79.7	95-100			
cis-1,2-Dichloroethane	41.8	1	ug/L	50.0	4.89	99.8	79-100			
cis-1,3-Dichloropropene	42.8	1	ug/L	50.0	55.00	97.7	79-100			
Dibromochloromethane	47.8	0.5	ug/L	50.0	55.00	95.4	95-100			
1,1-Dibromoethane	48.8	1	ug/L	50.0	55.00	97.9	75-100			
1,1-Dibromopropane	45.2	1	ug/L	50.0	55.00	97.4	75-100			
1,1,1-Trichloroethane	59.7	2	ug/L	50.0	55.00	97.8	75-100			
1,1,2-Trichloroethane	45.2	4	ug/L	50.0	55.00	97.4	55-100			
1,2-Dichloroethane	45.8	1	ug/L	50.0	55.00	97.8	95-100			
Bromoform	45.3	1	ug/L	50.0	55.00	79.9	50-100			
1,1,1-Trichloroethylene (TCE)	72.8	1	ug/L	50.0	55.00	74.9	45-100			
Bromoacetylene	45.3	1	ug/L	50.0	55.00	99.7	75-100			
trans-1,2-Dichloroethane	45.5	1	ug/L	50.0	55.00	97.1	95-100			
trans-1,3-Dichloropropene	39.8	1	ug/L	50.0	55.00	79.1	55-100			
Trichloroethylene	49.3	1	ug/L	50.0	4.81	94.3	79-100			
Trichlorofluoromethane	39.8	1	ug/L	50.0	55.00	79.8	95-100			
Vinyl chloride	41.8	0.2	ug/L	50.0	55.00	97.3	50-100			
Sum 1,3-Dichloropropene (Sum)	41.8		ug/L	50.0		87.8	79-100			
Sum 4-Bromodichloromethane (Sum)	48.1		ug/L	50.0		99.3	79-100			
Sum 2-Bromodichloromethane (Sum)	47.2		ug/L	50.0		94.9	79-100			
Sum 1,1,1-Trichloro (Sum)	48.7		ug/L	50.0		97.4	79-100			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0726 - SW5030B										
Blank (BCJ0726-BLK1)				Prepared & Analyzed: 10/18/2019						
1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloroethylene	BLOD	1.00	ug/L							
1,2-Dibromoethane	BLOD	1.00	ug/L							
1,1-Dibromoethylene	BLOD	1.00	ug/L							
1,1,1-Trifluoroethane	BLOD	5.00	ug/L							
2,2,2-Trifluoroethane	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Benzene	BLOD	1.00	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromochloroethane	BLOD	0.50	ug/L							
Bromobenzene	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon disulfide	BLOD	10.0	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							

Certificate of Analysis

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Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch: 19-0724 - 1905008

Batch (BL0719-BL17)

Prepared & Analyzed: 10/18/2019

Chloroform	85.00	0.50	ug/L							
Dichloroethane	85.00	1.00	ug/L							
m-1,2-Dichlorobenzene	85.00	1.00	ug/L							
o-1,2-Dichlorobenzene	85.00	1.00	ug/L							
Trichloroethylene	85.00	0.50	ug/L							
Bromochloroethane	85.00	1.00	ug/L							
Ethylbenzene	85.00	1.00	ug/L							
Isoprene	85.00	10.0	ug/L							
m,p-Xylene	85.00	2.00	ug/L							
Methyl tert-butyl ether	85.00	4.00	ug/L							
n-Butane	85.00	1.00	ug/L							
Heptane	85.00	1.00	ug/L							
Tetrahydrofuran (THF)	85.00	1.00	ug/L							
Hexane	85.00	1.00	ug/L							
trans-1,2-Dichloroethane	85.00	1.00	ug/L							
trans-1,4-Dichlorobenzene	85.00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	85.00	4.00	ug/L							
Trichloroethylene	85.00	1.00	ug/L							
Trichlorofluoromethane	85.00	1.00	ug/L							
Vinyl acetate	85.00	10.0	ug/L							
Vinyl chloride	85.00	0.50	ug/L							
Xylenes, total	85.00	2.00	ug/L							
Sum 1,2-Dichloroethane (ug/L)	45.4		ug/L	50.0		96.9	70-120			
Sum 4-Bromochloroethane (ug/L)	51.2		ug/L	50.0		104	75-120			
Sum Trichloroethylene (ug/L)	49.1		ug/L	50.0		96.2	70-130			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch: GC-8728 - 878338										
Blank (BL-8728-BL-87)										
Prepared & Analyzed: 10/18/2019										
Sum: Ethanol-d11 (Sum)	21.5		ug/L	50.0		103	70-130			
LC8 (GC-8728-87)										
Prepared & Analyzed: 10/18/2019										
1,1,1,2-Tetrachloroethane	41.4	0.4	ug/L	50.0		86.8	80-130			
1,1,1-Trichloroethane	40.8	1	ug/L	50.0		97.6	65-130			
1,1,2,2-Tetrachloroethane	40.8	0.4	ug/L	50.0		91.2	65-130			
1,1,2-Trichloroethane	47.0	1	ug/L	50.0		94.0	75-130			
1,1-Dichloroethane	47.7	1	ug/L	50.0		95.4	75-130			
1,1-Dichloroethylene	45.9	1	ug/L	50.0		91.8	75-130			
1,2,3-Trichloropropane	40.0	1	ug/L	50.0		80.0	75-130			
1,2-Dichlorobenzene	43.5	1	ug/L	50.0		87.0	75-130			
1,2-Dichloroethane	40.7	1	ug/L	50.0		81.4	75-130			
1,2-Dichloropropane	46.6	1	ug/L	50.0		93.2	75-130			
1,4-Dichlorobenzene	43.5	1	ug/L	50.0		87.0	75-130			
2-Butanone (MEK)	43.8	5	ug/L	50.0		87.6	35-130			
2-Hexanone (MEK)	46.8	5	ug/L	50.0		93.6	55-130			
4 Methyl-2-pentanone (MIBK)	48.0	5	ug/L	50.0		96.0	65-130			
Acetone	69.1	10	ug/L	50.0		138.2	60-140			
Acrylonitrile	366	5	ug/L	250		1464	75-130			
Benzene	47.5	1	ug/L	50.0		95.0	65-130			
Bromochloromethane	44.3	1	ug/L	50.0		88.6	65-130			
Bromodichloromethane	45.3	0.5	ug/L	50.0		90.6	75-130			
Bromobenzene	47.3	1	ug/L	50.0		94.6	75-130			
Bromoethane	27.1	1	ug/L	50.0		54.2	30-140			
Carbon Disulfide	45.4	10	ug/L	50.0		90.8	35-130			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: 19C-0028 - 19C0028										
LC8 (BCLM78-89)										
Prepared & Analyzed: 10/29/19										
Carbon tetrachloride	88.2	1	ug/L	88.0	88.0	99.0	95-100			
Chloroform	88.7	1	ug/L	88.0	88.0	99.0	95-100			
Chloroethane	88.8	1	ug/L	88.0	88.0	99.0	95-100			
Chloroacetylene	44.8	0.5	ug/L	44.0	44.0	99.0	95-100			
1,1,1-Trichloroethane	56.7	1	ug/L	56.0	56.0	99.0	95-100			
1,1,2-Trichloroethane	45.0	1	ug/L	45.0	45.0	99.0	95-100			
1,1,2,2-Tetrachloroethane	88.2	1	ug/L	88.0	88.0	99.0	95-100			
Dibromochloroethane	47.0	0.5	ug/L	47.0	47.0	99.0	95-100			
Bromoacetylene	44.7	1	ug/L	44.0	44.0	99.0	95-100			
1,1,1,2-Tetrafluoroethane	44.5	1	ug/L	44.0	44.0	99.0	95-100			
1,1,2,2-Tetrafluoroethane	88.1	2	ug/L	88.0	88.0	99.0	95-100			
1,1,1,1-Tetrafluoroethane	44.0	4	ug/L	44.0	44.0	99.0	95-100			
n-Pentane	48.5	1	ug/L	48.0	48.0	99.0	95-100			
Hexane	47.8	1	ug/L	47.0	47.0	99.0	95-100			
1,1,1,2-Tetrafluoroethane (TFE)	58.8	1	ug/L	58.0	58.0	99.0	95-100			
Heptane	49.2	1	ug/L	49.0	49.0	99.0	95-100			
1,1,1,2,2-Pentafluoroethane	50.4	1	ug/L	50.0	50.0	99.0	95-100			
1,1,1,2,2-Pentafluoroethane	45.0	1	ug/L	45.0	45.0	99.0	95-100			
Trifluoroethylene	48.5	1	ug/L	48.0	48.0	99.0	95-100			
Trifluorobromomethane	37.5	1	ug/L	37.0	37.0	99.0	95-100			
1,1,1,2,2-Pentafluoroethane	41.2	0.5	ug/L	41.0	41.0	99.0	95-100			
Sum 1,2-Dichloroethane (Sum)	49.2		ug/L	49.0	49.0	99.0	95-100			
Sum 4-Bromochloroethane (Sum)	47.0		ug/L	47.0	47.0	99.0	95-100			
Sum 1,1,2,2-Tetrafluoroethane (Sum)	48.0		ug/L	48.0	48.0	99.0	95-100			
Sum 1,1,1,2-Tetrafluoroethane (Sum)	44.4		ug/L	44.0	44.0	99.0	95-100			

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: BC-0728 - 0900008

Matrix Spike (BC-0728-MS1)	Source: 10/07/19-23	Prepared & Analyzed: 10/07/2019								
1,1,1,2-Tetrafluoroethane	11.2	0.4	ug/L	10.0	10.00	92.4	90-130			
1,1,1-Trifluoroethane	48.8	1	ug/L	10.0	10.00	97.8	90-130			
1,1,2,2-Tetrafluoroethane	48.8	0.4	ug/L	10.0	10.00	111.2	90-130			
1,1,2-Trifluoroethane	40.7	1	ug/L	10.0	10.00	60.0	75-120			
1,1-Difluoroethane	40.4	1	ug/L	10.0	10.00	90.4	75-120			
1,1-Dichloroethane	11.2	1	ug/L	10.0	10.00	88.4	75-120			
1,2-Dichloroethane	60.0	1	ug/L	10.0	10.00	111.7	75-125			
1,2-Dibromoethane	11.0	1	ug/L	10.0	10.00	83.8	75-120			
1,2-Dichloroethane	41.4	1	ug/L	10.0	10.00	62.8	75-120			
1,2-Dibromoethane	45.8	1	ug/L	10.0	10.00	91.8	75-120			
1,4-Dibromobenzene	60.8	1	ug/L	10.0	10.00	118.8	75-125			
2-Hexanone (MIX)	47.8	1	ug/L	10.0	10.00	88.4	30-150			
2-Hexanone (MIX)	61.3	5	ug/L	10.0	10.00	101.7	50-130			
4-Methyl-2-pentanone (MIX)	51.2	5	ug/L	10.0	10.00	70.2	50-130			
Acetone	10.2	10	ug/L	10.0	10.00	67.1	40-140			
Acrylonitrile	200	5	ug/L	200	10.00	114	75-130			
Benzene	40.2	1	ug/L	10.0	10.00	12.4	60-120			
Bromochloroethane	41.7	1	ug/L	10.0	10.00	91.4	60-130			
Bromodichloroethane	44.0	0.1	ug/L	10.0	10.00	88.1	75-120			
Bromobenzene	41.4	1	ug/L	10.0	10.00	82.8	75-120			
Bromomethane	10.2	1	ug/L	10.0	10.00	36.4	30-140			
Carbon disulfide	45.4	10	ug/L	10.0	10.00	90.8	50-150			
Carbon tetrachloride	40.1	1	ug/L	10.0	10.00	92.1	60-140			
Chlorobenzene	40.8	1	ug/L	10.0	10.00	47.8	60-120			
Chloroethane	11.0	1	ug/L	10.0	10.00	62.8	60-130			

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: BC-0726 - 0900008

Matrix Spike (BC-0726-MS1)	Source: 1840/18-23	Prepared & Analyzed: 10/10/2019								
Chloroethane	42.1	0.5	ug/L	50.0	59.00	59.2	65-125			
Chloroethane	54.1	1	ug/L	50.0	59.00	100	40-120			
Isn-1,2-Dichloroethylene	48.8	1	ug/L	50.0	1.20	91.2	75-125			
Isn-1,2-Dichloropropene	49.4	1	ug/L	50.0	59.00	92.9	75-140			
Trichloroethylene	47.3	0.5	ug/L	50.0	59.00	94.0	60-125			
Trichloroethylene	53.8	1	ug/L	50.0	59.00	87.8	75-125			
Ethylbenzene	43.2	1	ug/L	50.0	59.00	89.4	77-120			
m,p-Xylene	50.2	2	ug/L	100	59.00	89.2	75-150			
Methylene chloride	44.5	4	ug/L	50.0	59.00	90.7	50-140			
n-Xylene	45.0	1	ug/L	50.0	59.00	89.8	60-120			
Bromo	44.2	1	ug/L	50.0	59.00	88.3	65-125			
Trichloroethylene (PCE)	50.3	1	ug/L	50.0	0.01	110	40-120			
Toluene	48.8	1	ug/L	50.0	59.00	97.8	75-120			
Isn-1,2-Dichloroethylene	45.4	1	ug/L	50.0	59.00	95.9	60-140			
Isn-1,2-Dichloropropene	52.5	1	ug/L	50.0	59.00	89.9	50-140			
Tetrahydrofuran	47.7	1	ug/L	50.0	1.89	93.8	75-125			
Trinitrofluoromethane	56.4	1	ug/L	50.0	59.00	72.4	60-140			
Vegetables	45.0	0.5	ug/L	50.0	59.00	92.0	50-140			
Sum: 1,2-Dichloroethane (Sum)	50.0		ug/L	50.0		89	75-120			
Sum: 4-Dichlorodibromomethane (Sum)	50.1		ug/L	50.0		100	75-120			
Sum: Trichloroethylene (Sum)	49.8		ug/L	50.0		89.7	75-120			
Sum: Toluene (Sum)	51.1		ug/L	50.0		102	75-120			

Matrix Spike Dup (BC-0726-MSD1)	Source: 1840/18-23	Prepared & Analyzed: 10/10/2019								
1,1,2-Trichloroethane	43.9	0.4	ug/L	50.0	59.00	87.9	65-120	8.25	30	

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: BC-0728 - 20190828										
Matrix Spike Log (BC-0728-2019)										
Source: 184089-23 Prepared & Analyzed: 10/10/2019										
1,1,1-Trichloroethane	58.4	1	ug/L	58.4	58.00	101	85-130	2.99	30	
1,1,2-Trichloroethane	49.3	0.4	ug/L	58.4	58.00	99.6	85-130	0.989	30	
1,1,2-Dichloroethane	48.4	1	ug/L	58.4	58.00	99.9	75-125	0.007	30	
1,1-Dichloroethane	49.9	1	ug/L	58.4	58.00	99.7	75-125	1.11	30	
1,1-Dichloroethylene	46.3	1	ug/L	58.4	58.00	93.0	35-130	8.35	30	
1,2-Dichloropropane	39.9	1	ug/L	58.4	58.00	73.9	75-125	2.28	30	
1,2-Dichlorobenzene	43.0	1	ug/L	58.4	58.00	89.1	75-125	2.71	30	
1,2-Dichloroethane	11.0	1	ug/L	58.4	58.00	49.9	35-130	0.140	30	
1,2-Dichloroethane	48.1	1	ug/L	58.4	58.00	93.2	75-125	0.769	30	
1,4-Dichlorobenzene	41.4	1	ug/L	58.4	58.00	42.9	75-125	1.49	30	
2-Halocloro (MPE)	42.8	0	ug/L	58.4	58.00	89.8	35-130	0.13	30	
Trihalocloro (MPE)	49.0	0	ug/L	58.4	58.00	92.0	35-130	4.88	30	
4-Methyl-2-pentane (MPE)	45.3	0	ug/L	58.4	58.00	99.8	60-120	0.93	30	
Acetone	51.3	10	ug/L	58.4	58.00	99.2	40-140	2.23	30	
Acetonitrile	280	5	ug/L	200	58.00	138	75-130	17.2	30	44
Benzene	47.4	1	ug/L	58.4	58.00	94.9	60-120	2.15	30	
Bromochloromethane	44.0	1	ug/L	58.4	58.00	97.6	85-130	1.82	30	
Bromodichloromethane	44.9	0.5	ug/L	58.4	58.00	99.8	75-120	1.98	30	
Bromobenzene	41.5	1	ug/L	58.4	58.00	83.0	35-130	0.171	30	
Bromomethane	39.2	1	ug/L	58.4	58.00	54.4	35-145	0.52	30	
Carbon Disulfide	46.2	10	ug/L	58.4	58.00	98.3	20-800	0.79	30	
Carbon tetrachloride	46.3	1	ug/L	58.4	58.00	99.1	65-140	4.85	30	
Chlorobenzene	49.8	1	ug/L	58.4	58.00	90.1	60-120	0.74	30	
Chloroethane	49.9	1	ug/L	58.4	58.00	95.2	60-120	2.09	30	
Chloroform	42.3	0.1	ug/L	58.4	58.00	94.7	85-130	0.514	30	

Certificate of Analysis

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Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BC-0728 - 20190928

Matrix Spike Log (BC-0728-0001)	Source: 10/09/2019	Prepared & Analyzed: 10/09/2019								
Chloroethane	57.7	1	ug/L	50.0	BL00	115	40-125	0.52	30	
iso-1,2-Dichloroethane	48.2	1	ug/L	50.0	1.20	93.8	35-125	2.77	30	
iso-1,3-Dichloropropane	47.8	1	ug/L	50.0	BL00	94.7	35-125	1.20	30	
Dibromochloroethane	47.3	0.5	ug/L	50.0	BL00	94.7	35-125	0.209	30	
Dibromodichloroethane	44.0	1	ug/L	50.0	BL00	88.1	75-125	0.191	30	
1,1-Dibromoethane	40.7	1	ug/L	50.0	BL00	63.4	75-125	7.74	30	
ortho-Xylene	35.8	2	ug/L	500	BL00	95.8	75-120	7.13	30	
Methylene chloride	34.0	4	ug/L	500	BL00	88.7	55-140	0.0652	30	
n-Butane	40.5	1	ug/L	50.0	BL00	98.5	80-120	7.09	30	
Styrene	38.8	1	ug/L	50.0	BL00	93.8	65-125	6.04	30	
1,1-Dibromoethane (PCE)	35.2	1	ug/L	50.0	0.51	120	45-150	7.95	30	
Isoprene	44.8	1	ug/L	50.0	BL00	98.8	75-120	3.35	30	
trans-1,2-Dichloroethylene	55.1	1	ug/L	50.0	BL00	101	60-140	1.91	30	
trans-1,3-Dichloropropane	45.4	1	ug/L	50.0	BL00	86.9	55-140	0.0460	30	
Trichloroethylene	45.0	1	ug/L	50.0	1.09	90.8	70-125	3.04	30	
Trichloroethylene	38.0	1	ug/L	50.0	BL00	77.0	60-145	5.53	30	
Vinyl acetate	42.7	0.5	ug/L	50.0	BL00	85.4	50-145	4.13	30	
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Sum: 1,2-Dichloroethane all (Sum)	47.8		ug/L	50.0		93.7	35-125			
Sum: 4-Dibromochloroethane (Sum)	57.8		ug/L	50.0		95	35-125			
Sum: Dibromodichloroethane (Sum)	44.8		ug/L	50.0		88.8	75-125			
Sum: Xylene all (Sum)	50.8		ug/L	50.0		93	75-120			

Batch BC-0728 - 20190928

Blank (BC-0728-0001)	Prepared & Analyzed: 10/01/2019
1,1,2-Trichloroethane	BL00 0.00 ug/L

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BCJ0792 - SW5030B

Blank (BCJ0792-BLK1) Prepared & Analyzed: 10/21/2019

1,1,1-Trichloroethane	BLOD	1.00	ug/L
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,2-Trichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethane	BLOD	1.00	ug/L
1,1,1,1-Tetrafluoroethane	BLD	1.00	ug/L
1,2-Dichloropropane	BLD	1.00	ug/L
1,2-Dibromochloroethane	BLD	1.00	ug/L
1,2-Dichloroethane	BLD	1.00	ug/L
1,2-Dibromopropane	BLD	1.00	ug/L
1,4-Dichlorobenzene	BLD	1.00	ug/L
2-Bromoanisole (MVA)	BLD	5.00	ug/L
3-Bromoanisole (MVA)	BLD	5.00	ug/L
4-Bromoanisole (MVA)	BLD	5.00	ug/L
Aniline	BLD	50.0	ug/L
Nylonolins	BLD	5.00	ug/L
Benzene	BLD	1.00	ug/L
Bromochloromethane	BLD	1.00	ug/L
Bromodichloromethane	BLD	0.50	ug/L
Bromofluoromethane	BLD	1.00	ug/L
Bromomethane	BLD	1.00	ug/L
Carbon disulfide	BLD	50.0	ug/L
Carbon tetrachloride	BLD	1.00	ug/L
Chlorobenzene	BLD	1.00	ug/L
Chloroethane	BLD	1.00	ug/L
Chloroform	BLD	0.50	ug/L

Certificate of Analysis

Client Name: Golden Associates, Inc.
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Date Issued: 11/5/2019 3:39:34PM

Volatiles Organics Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 19-0179 - 190308

Blank (19-0179-BLANK)

Prepared & Analyzed: 10/21/2019

Chloroethane	85.00	1.00	ug/L							
iso-1,2-Dichloroethane	85.00	1.00	ug/L							
iso-1,1-Dichloroethane	85.00	1.00	ug/L							
Bromochloroethane	85.00	0.50	ug/L							
Dibromoethane	85.00	1.00	ug/L							
1,1,1-Trichloroethane	85.00	1.00	ug/L							
1,1,2-Trichloroethane	85.00	1.00	ug/L							
1,1,1,2-Tetrachloroethane	85.00	0.50	ug/L							
1,1,2,2-Tetrachloroethane	85.00	2.00	ug/L							
Methylene chloride	85.00	4.00	ug/L							
n-Pentane	85.00	1.00	ug/L							
Hexane	85.00	1.00	ug/L							
1,1-Dibromoethane (PCE)	85.00	1.00	ug/L							
Styrene	85.00	1.00	ug/L							
trans-1,2-Dichloroethane	85.00	1.00	ug/L							
trans-1,2-Dichloroethene	85.00	1.00	ug/L							
trans-1,4-Dichloro-2-butene	85.00	4.00	ug/L							
Trichloroethene	85.00	1.00	ug/L							
1,1,1-Trichloroethene	85.00	1.00	ug/L							
Vinyl acetate	85.00	0.50	ug/L							
Vinyl chloride	85.00	0.50	ug/L							
Xylenes, total	85.00	1.00	ug/L							
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Sum 1,2-Dichloroethane (Sum)	49.8		ug/L	50.0		99.7	70-100			
Sum 4-Bromochloroethane (Sum)	21.1		ug/L	50.0		100	70-100			
Sum 2-Bromochloroethane (Sum)	46.7		ug/L	50.0		93.4	70-100			
Sum 1,1,1-Trichloroethane (Sum)	49.8		ug/L	50.0		99.7	70-100			

Certificate of Analysis

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Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: GC-0179 - 000008

LOQ (MCL/MCLL) (MCL)		Prepared & Analyzed: 10/21/2019								
1,1,1-Trichloroethane	42.4	0.4	ug/L	50.0	54.7	90.0	90-130			
1,1,1-Trichloroethene	42.4	1	ug/L	50.0	56.8	90.0	90-130			
1,1,2,2-Tetrachloroethane	41.8	0.4	ug/L	50.0	61.2	90.0	90-130			
1,1,2-Tetrachloroethene	40.9	1	ug/L	50.0	61.9	90.0	75-120			
1,1-Dichloroethane	45.8	1	ug/L	50.0	52.6	90.0	90-130			
1,1-Dichloroethene	46.8	1	ug/L	50.0	61.1	90.0	90-130			
1,2-Dichloroethane	42.5	1	ug/L	50.0	65.1	90.0	75-125			
1,2-Dichloroethene	44.0	1	ug/L	50.0	69.2	90.0	90-130			
1,2-Dibromoethane	58.5	1	ug/L	50.0	77.7	90.0	90-130			
1,2-Dibromoethene	44.9	1	ug/L	50.0	66.6	90.0	75-120			
1,4-Dibromobutane	42.4	1	ug/L	50.0	64.8	90.0	75-125			
2-Hexanone (MCL)	41.2	1	ug/L	50.0	62.8	90.0	30-100			
2-Hexanone (MCL)	48.8	5	ug/L	50.0	61.2	90.0	50-130			
4-Methyl-2-pentanone (MCL)	47.1	5	ug/L	50.0	74.2	90.0	50-130			
Acetone	41.0	10	ug/L	50.0	63.2	90.0	40-140			
Acrylonitrile	212	2	ug/L	200	93.1	90.0	75-130			
Benzene	45.8	1	ug/L	50.0	61.6	90.0	90-130			
Bromochloroethane	41.7	1	ug/L	50.0	61.4	90.0	90-130			
Bromodichloroethane	43.0	0.2	ug/L	50.0	66.1	90.0	75-120			
Bromobenzene	42.7	1	ug/L	50.0	62.4	90.0	90-130			
Bromomethane	25.8	1	ug/L	50.0	51.2	90.0	20-140			
Carbon disulfide	41.0	10	ug/L	50.0	62.6	90.0	90-130			
Carbon tetrachloride	44.0	1	ug/L	50.0	66.6	90.0	90-130			
Chlorobenzene	45.9	1	ug/L	50.0	61.9	90.0	90-130			
Chloroethane	34.5	1	ug/L	50.0	77.6	90.0	90-130			

Certificate of Analysis

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Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch BC-0170 - 000008

LC8 (BC-0170-017)										
Prepared & Analyzed: 10/21/2019										
Chloroform	36.2	0.5	ug/L	50.0		76.8	65-125			
Chloroethane	55.5	1	ug/L	50.0		111	40-120			
m-1,2-Dichloroethane	41.8	1	ug/L	50.0		81.7	70-125			
o-1,2-Dichloroethane	40.0	1	ug/L	50.0		80.0	70-140			
Trichloroethylene	45.9	0.5	ug/L	50.0		81.8	60-125			
Trichloroethane	44.0	1	ug/L	50.0		88.0	75-125			
Ethylbenzene	45.1	1	ug/L	50.0		90.2	77-120			
m-xylene	59.7	2	ug/L	100		91.7	75-150			
Methyl ethyl ketone	41.5	4	ug/L	50.0		83.0	50-140			
p-xylene	55.7	1	ug/L	50.0		91.4	60-120			
Styrene	45.8	1	ug/L	50.0		81.7	65-125			
trans-1,2-Dichloroethane (TCE)	62.7	1	ug/L	50.0		125	40-120			
Toluene	48.1	1	ug/L	50.0		96.1	75-120			
o-m-xylene	40.9	1	ug/L	50.0		81.7	60-140			
o-m-xylene	51.7	1	ug/L	50.0		97.4	50-140			
1,1,1-Trichloroethane	45.5	1	ug/L	50.0		91.0	70-125			
trans-1,2-Dichloroethane	52.4	1	ug/L	50.0		94.8	60-140			
Vinyl chloride	34.5	0.5	ug/L	50.0		70.5	50-140			
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Sum 1,2-Dichloroethane (Sum)	46.3		ug/L	50.0		89.7	70-120			
Sum 4-Dichloroethane (Sum)	55.3		ug/L	50.0		109	70-120			
Sum 1,1,1-Trichloroethane (Sum)	46.4		ug/L	50.0		87.8	70-120			
Sum Toluene (Sum)	50.7		ug/L	50.0		99	70-120			

Duplicate (BC-0170-DUP1)										
Source: TR0006-01 Prepared & Analyzed: 10/21/2019										
1,1,2-Trichloroethane	81.80	0.40	ug/L		81.80		NA		30	

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
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Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch BCJ0792 - SW5030B										
Duplicate (BCJ0792-DUP1)		Source: 19J0896-01			Prepared & Analyzed: 10/21/2019					
1,1,1-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	1.96	1.00	ug/L		1.96			6.39%	30	
1,1-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	0.51	1.00	ug/L		0.51			NA	30	
2-Butanone (MEK)	BLOD	5.00	ug/L		BLOD			NA	30	
2-Hexanone (MEK)	BLOD	5.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L		BLOD			NA	30	
Acetone	BLOD	10.0	ug/L		BLOD			NA	30	
Acrylonitrile	BLOD	5.00	ug/L		BLOD			NA	30	
Benzene	BLOD	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	BLOD	0.10	ug/L		BLOD			NA	30	
Bromofluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
Chloroform	BLOD	0.50	ug/L		BLOD			NA	30	

Certificate of Analysis

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Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 19-0179 - 191008

Duplicate (IC-1771-1772)	Source: 191008-01	Prepared & Analyzed: 10/21/2019								
Chloroethane	85.00	1.00	ug/L		85.00			NA	30	
iso-1,2-Dichloroethane	12.8	1.00	ug/L		13.2			0.80	30	
iso-1,3-Dichloropropane	85.00	1.00	ug/L		85.00			NA	30	
Bromochloroethane	85.00	0.50	ug/L		85.00			NA	30	
Dibromochloroethane	85.00	1.00	ug/L		85.00			NA	30	
1,1,1-Trichloroethane	85.00	1.00	ug/L		85.00			NA	30	
1,1,2-Trichloroethane	85.00	1.00	ug/L		85.00			NA	30	
1,1,2,2-Tetrachloroethane	85.00	10.0	ug/L		85.00			NA	30	
1,1,2,2,2-Pentachloroethane	85.00	2.00	ug/L		85.00			NA	30	
Methylene chloride	85.00	4.00	ug/L		85.00			NA	30	
n-Butane	85.00	1.00	ug/L		85.00			NA	30	
Butene	85.00	1.00	ug/L		85.00			NA	30	
Isobutene	85.00	1.00	ug/L		85.00			NA	30	
Triene	85.00	1.00	ug/L		85.00			NA	30	
iso-1,2-Dichloroethane (PCL)	85.00	1.00	ug/L		85.00			NA	30	
Triene	85.00	1.00	ug/L		85.00			NA	30	
iso-1,2-Dichloroethane	85.00	1.00	ug/L		85.00			NA	30	
iso-1,2-Dichloroethane	85.00	1.00	ug/L		85.00			NA	30	
iso-1,4-Dichloro-2-butene	85.00	4.00	ug/L		85.00			NA	30	
Trichloroethane	1.38	1.00	ug/L		1.38			0.45	30	
Trichloroethylene	85.00	1.00	ug/L		85.00			NA	30	
Vinyl acetate	85.00	10.0	ug/L		85.00			NA	30	
Vinyl chloride	0.76	0.50	ug/L		0.84			1.80	30	
Ethene, total	85.00	1.00	ug/L		85.00			NA	30	
Sum: 1,2-Dichloroethane (ug)	47.8		ug/L	30.0		85.0	70-120			
Sum: 4-Bromochloroethane (ug)	21.4		ug/L	30.0		100	70-120			
Sum: 2-Bromochloroethane (ug)	48.8		ug/L	30.0		80.8	70-120			
Sum: Ethene (ug)	49.8		ug/L	30.0		80.8	70-120			

Certificate of Analysis

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Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
Batch: 19C-0176 - 19C0008										
Matrix Spike (19C-0176-MS1)										
Source: 19C0008-01										
Prepared & Analyzed: 10/21/2019										
1,1,1,2-Tetrafluoroethane	45.3	0.4	ug/L	50.0	51.00	98.0	95-100			
1,1,1-Trifluoroethane	45.8	1	ug/L	50.0	51.00	98.0	95-100			
1,1,2,2-Tetrafluoroethane	45.5	0.4	ug/L	50.0	51.00	98.0	95-100			
1,1,2-Trifluoroethane	46.6	1	ug/L	50.0	51.00	98.1	75-120			
1,1-Difluoroethane	46.7	1	ug/L	50.0	1.81	93.4	75-120			
1,1-Dichloroethane	45.6	1	ug/L	50.0	51.00	97.6	75-100			
1,2-Dichloroethane	45.6	1	ug/L	50.0	51.00	97.2	75-125			
1,2-Dibromoethane	45.2	1	ug/L	50.0	51.00	94.5	75-100			
1,2-Dibromoethane	46.6	1	ug/L	50.0	51.00	98.1	75-100			
1,2-Dichloropropane	46.3	1	ug/L	50.0	51.00	98.6	75-120			
1,4-Dibromobutane	45.8	1	ug/L	50.0	8.51	92.3	75-120			
2-Propanone (MIBK)	36.1	1	ug/L	50.0	51.00	79.8	30-100			
2-Propanone (MIBK)	45.5	5	ug/L	50.0	51.00	98.0	50-100			
4-Methyl-2-pentanone (MXP)	44.0	5	ug/L	50.0	51.00	99.8	50-100			
Acetone	42.9	10	ug/L	50.0	51.00	77.7	40-140			
Acrylonitrile	200	5	ug/L	200	51.00	98.4	75-100			
Benzene	46.4	1	ug/L	50.0	51.00	98.4	60-100			
Bromochloromethane	45.7	1	ug/L	50.0	51.00	87.3	60-100			
Bromodichloromethane	44.7	0.5	ug/L	50.0	51.00	98.3	75-100			
Bromobenzene	45.7	1	ug/L	50.0	51.00	87.3	75-100			
Bromomethane	28.0	1	ug/L	50.0	51.00	36.1	20-140			
Carbon disulfide	45.6	10	ug/L	50.0	51.00	93.7	75-100			
Carbon tetrachloride	47.6	1	ug/L	50.0	51.00	95.2	60-140			
Chlorobenzene	46.6	1	ug/L	50.0	51.00	97.6	60-100			
Chloroethane	45.6	1	ug/L	50.0	51.00	97.6	60-100			

Certificate of Analysis

Client Name: Golden Associates, Inc.
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Date Issued: 11/5/2019 3:39:34PM

Volatile Organic Compounds by GC/MS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limit	RPD	RPD Limit	Qual
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Batch: 80-0793 - 800008

Matrix Spike (80-0793-MS1)	Source: 18/09/19	Prepared & Analyzed: 10/1/2019								
Chloroethane	82.2	0.5	ug/L	80.0	81.00	80.4	85-125			
Chloroethane	76.8	1	ug/L	80.0	81.00	114	40-120			
iso-1,2-Dichloroethane	57.2	1	ug/L	50.0	53.2	87.6	70-125			
iso-1,2-Dichloropropane	47.6	1	ug/L	50.0	51.00	91.9	70-140			
1,1-Dichloroethene	48.1	0.5	ug/L	50.0	51.00	98.2	60-125			
1,1-Dichloroethane	51.5	1	ug/L	50.0	51.00	98.9	75-125			
Ethylbenzene	47.0	1	ug/L	50.0	51.00	97.8	77-120			
m,p-Xylene	59.0	2	ug/L	70.0	61.00	86.9	75-150			
Methylene chloride	45.0	4	ug/L	50.0	51.00	91.7	50-140			
n-Xylene	41.0	1	ug/L	50.0	51.00	98.7	60-120			
Styrene	45.5	1	ug/L	50.0	51.00	91.8	65-125			
1,1,1-Trichloroethane (TCE)	67.2	1	ug/L	50.0	61.00	124	45-150			
Toluene	61.0	1	ug/L	50.0	61.00	97.8	75-120			
trans-1,2-Dichloroethane	44.0	1	ug/L	50.0	51.00	97.1	60-140			
trans-1,2-Dichloropropene	44.2	1	ug/L	50.0	51.00	98.0	55-140			
Trichloroethylene	40.0	1	ug/L	50.0	1.88	97.8	70-125			
Trimethylamine	74.8	1	ug/L	50.0	81.00	92.1	60-140			
Vinyl chloride	41.0	0.5	ug/L	50.0	4.84	90.4	50-140			
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Sum: 1,2-Dichloroethane-M (Sum)	46.4		ug/L	50.0		91.8	70-120			
Sum: 1,1-Dichloroethane-M (Sum)	50.1		ug/L	50.0		98.0	75-120			
Sum: 1,1-Dichloroethane-M (Sum)	48.3		ug/L	50.0		92.7	70-120			
Sum: Toluene-M (Sum)	50.8		ug/L	50.0		98.1	70-120			

Certificate of Analysis

Client Name: Golden Associates, Inc.
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Date Issued: 11/5/2019 3:39:34PM

Method: Special Analysis by GC - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BCJ0803 - No Prep VOC										
Blank (BCJ0803-BLK1)										
Prepared & Analyzed: 10/21/2019										
Methane	BLOD	5.0	ug/L							
<i>Surr. Acetylene (Surr)</i>	434		ug/L	432		58	70-130			
LCS (BCJ0803-BS1)										
Prepared & Analyzed: 10/21/2019										
Methane	251	5.0	ug/L	206		95.5	70-130			
<i>Surr. Acetylene (Surr)</i>	446		ug/L	432		103	70-130			
Matrix Spike (BCJ0803-MS1)										
Source: 19J0806-01										
Prepared & Analyzed: 10/21/2019										
Methane	233	5.0	ug/L	206	4.8	86.0	70-130			
<i>Surr. Acetylene (Surr)</i>	529		ug/L	432		122	70-130			
Matrix Spike Dup (BCJ0803-MSD1)										
Source: 19J0806-01										
Prepared & Analyzed: 10/21/2019										
Methane	258	5.0	ug/L	206	4.8	95.1	70-130	0.88	20	
<i>Surr. Acetylene (Surr)</i>	510		ug/L	432		118	70-130			

Certificate of Analysis

Client Name: Golden Associates, Inc.
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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0724 - No Prep Wet Chem										
Blank (BCJ0724-BLK1)				Prepared & Analyzed: 10/18/2019						
Nitrite as N	BLOD	0.05	mg/L							
LCS (BCJ0724-BS1)				Prepared & Analyzed: 10/18/2019						
Nitrite as N	0.10	0.05	mg/L	0.100		100	80-120			
Matrix Spike (BCJ0724-MS1)				Source: 19J0826-03 Prepared & Analyzed: 10/18/2019						
Nitrite as N	0.08	0.05	mg/L	0.100	BLOD	85.0	80-120			
Matrix Spike Dup (BCJ0724-MS01)				Source: 19J0826-03 Prepared & Analyzed: 10/18/2019						
Nitrite as N	0.08	0.05	mg/L	0.100	BLOD	85.0	80-120	0.00	20	
Batch BCJ1016 - No Prep Wet Chem										
Blank (BCJ1016-BLK1)				Prepared & Analyzed: 10/23/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCJ1016-BS1)				Prepared & Analyzed: 10/23/2019						
Sulfide	5.47	1	mg/L	5.00		109	80-120			
LCS Dup (BCJ1016-BS01)				Prepared & Analyzed: 10/23/2019						
Sulfide	5.50	1	mg/L	5.00		110	80-120	0.547	20	
Matrix Spike (BCJ1016-MS1)				Source: 19J0847-01 Prepared & Analyzed: 10/23/2019						
Sulfide	2.76	1.00	mg/L	5.00	BLOD	55.2	75-125			M
Matrix Spike Dup (BCJ1016-MS01)				Source: 19J0847-01 Prepared & Analyzed: 10/23/2019						
Sulfide	2.72	1.00	mg/L	5.00	BLOD	54.4	75-125	1.46	20	M

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ1018 - No Prep Wet Chem										
Blank (BCJ1018-BLK1)				Prepared & Analyzed: 10/24/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCJ1018-BS1)				Prepared & Analyzed: 10/24/2019						
Sulfide	5.23	1	mg/L	5.00		105	80-120			
LCS Dup (BCJ1018-BS2)				Prepared & Analyzed: 10/24/2019						
Sulfide	5.15	1	mg/L	5.00		103	80-120	1.89	20	
Matrix Spike (BCJ1018-MS1)				Source: TR0001-04 Prepared & Analyzed: 10/24/2019						
Sulfide	5.13	1.00	mg/L	5.00	BLOD	103	75-125			
Matrix Spike Dup (BCJ1018-MS2)				Source: TR0001-04 Prepared & Analyzed: 10/24/2019						
Sulfide	5.11	1.00	mg/L	5.00	BLOD	102	75-125	0.394	20	
Batch BS-21011 - No Prep WS										
Blank (BS-21011-BLK1)				Prepared & Analyzed: 10/25/2019						
Chloride	81.120	1.0	mg/L							
Sulfate	BLOD	1.0	mg/L							
LCS (BS-21011-BS1)				Prepared & Analyzed: 10/25/2019						
Sulfate	20.2	1	mg/L	20.0		101	90-110			
Chloride	20.7	1	mg/L	20.0		103	90-110			
LCS Dup (BS-21011-BS2)				Prepared & Analyzed: 10/25/2019						
Sulfate	20.2	1	mg/L	20.0		101	90-110	0.0018	15	
Chloride	20.7	1	mg/L	20.0		103	90-110	0.0247	15	

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
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Batch BCJ1031 - No Prep IC

Matrix Spike (BCJ1031-MS1)		Source: 19J1137-01			Prepared & Analyzed: 10/25/2019					
Sulfate	10.8	1.0	mg/L	10.0	9.7	100	90-110			
Chloride	12.5	1.0	mg/L	10.0	1.8	107	90-110			
Matrix Spike (BCJ1031-MS2)		Source: 19J0701-01			Prepared & Analyzed: 10/25/2019					
Chloride	147	1.0	mg/L	10.0	152	-6.8	90-110			M
Sulfate	22.8	1.0	mg/L	10.0	13.4	93.6	90-110			
Matrix Spike Dup (BCJ1031-MS01)		Source: 19J1137-01			Prepared & Analyzed: 10/25/2019					
Sulfate	10.9	1.0	mg/L	10.0	0.7	101	90-110	0.817	15	
Chloride	12.2	1.0	mg/L	10.0	1.8	104	90-110	2.47	15	
Matrix Spike Dup (BCJ1031-MS02)		Source: 19J0701-01			Prepared & Analyzed: 10/25/2019					
Chloride	147	1.0	mg/L	10.0	152	-6.8	90-110	0.0831	15	M
Sulfate	22.0	1.0	mg/L	10.0	13.4	96.1	90-110	3.33	15	M

Batch BCJ1037 - No Prep IC

Blank (BCJ1037-BLK1)					Prepared & Analyzed: 10/28/2019					
Chloride	BL00	1.0	mg/L							
Sulfate	BL00	1.0	mg/L							
LCA (BCJ1037-BL01)					Prepared & Analyzed: 10/28/2019					
Chloride	19.6	1	mg/L	20.0		98.0	90-110			
Sulfate	19.7	1	mg/L	20.0		98.5	90-110			
LCA Dup (BCJ1037-BL02)					Prepared & Analyzed: 10/28/2019					
Sulfate	19.7	1	mg/L	20.0		98.5	90-110	0.101	15	
Chloride	19.4	1	mg/L	20.0		97.1	90-110	2.26	15	

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BCJ1037 - No Prep IC										
Matrix Spike (BCJ1037-MS1)		Source: 19J0891-08		Prepared & Analyzed: 10/29/2019						
Sulfate	9.6	1.0	mg/L	10.0	BL00	96.8	90-110			
Chloride	9.3	1.0	mg/L	10.0	BL00	92.7	90-110			
Matrix Spike Dup (BCJ1037-MSD1)		Source: 19J0891-08		Prepared & Analyzed: 10/29/2019						
Sulfate	9.6	1.0	mg/L	10.0	BL00	96.1	90-110	0.218	15	
Chloride	9.4	1.0	mg/L	10.0	BL00	94.4	90-110	1.81	15	
Batch BCJ1172 - No Prep Wet Chem										
Blank (BCJ1172-BLK1)				Prepared & Analyzed: 10/30/2019						
Nitrate+Nitrite as N	BL00	0.10	mg/L							
LCS (BCJ1172-BL1)				Prepared & Analyzed: 10/30/2019						
Nitrate+Nitrite as N	2.58	0.1	mg/L	2.50		103	90-110			
Matrix Spike (BCJ1172-MS1)		Source: 19J0867-01		Prepared & Analyzed: 10/30/2019						
Nitrate+Nitrite as N	3.84	0.10	mg/L	2.50	1.07	111	90-110			M
Matrix Spike Dup (BCJ1172-MSD1)		Source: 19J0867-01		Prepared & Analyzed: 10/30/2019						
Nitrate+Nitrite as N	3.84	0.10	mg/L	2.50	1.07	111	90-110	0.156	20	M
Batch BCJ1195 - No Prep Wet Chem										
Blank (BCJ1195-BLK1)				Prepared & Analyzed: 10/30/2019						
Ammonia	BL00	0.0	mg/L							

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%RSD	%RSD Limits	RPD	RPD Limit	Qual
Batch BCJ1195 - No Prep Wet Chem										
LCS (BCJ1195-BS1)				Prepared & Analyzed:	19/09/2019					
Alkalinity	51.0	5.0	mg/L	50.0		102	90-120			
Matrix Spike (BCJ1195-MS1)				Prepared & Analyzed:	19/09/2019					
Alkalinity	60.0	5.0	mg/L	50.0	5.5	120	75-125			
Matrix Spike Dup (BCJ1195-MS01)				Prepared & Analyzed:	19/09/2019					
Alkalinity	43.0	5.0	mg/L	50.0	5.5	100	75-125	3.28	2%	
Batch BCJ1246 - No Prep Wet Chem										
Blank (BCJ1246-BL1)				Prepared & Analyzed:	10/01/2019					
Alkalinity	88.000	0.0	mg/L							
LCS (BCJ1246-BS1)				Prepared & Analyzed:	10/01/2019					
Alkalinity	10.0	5.0	mg/L	10.0		100	90-120			
Matrix Spike (BCJ1246-MS1)				Prepared & Analyzed:	10/01/2019					
Alkalinity	83.0	5.0	mg/L	10.0	11.0	803	75-125			
Matrix Spike Dup (BCJ1246-MS01)				Prepared & Analyzed:	10/01/2019					
Alkalinity	67.0	5.0	mg/L	10.0	11.0	807	75-125	0.00	2%	
Batch BC02027 - No Prep Wet Chem										
Blank (BC02027-BL1)				Prepared & Analyzed:	11/01/2019					
Alkalinity-Phosphate as P	88.000	0.10	mg/L							



Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCK0027 - No Prep Wet Chem										
LCS (BCK0027-BS1)				Prepared & Analyzed: 11/01/2019						
Nitrate+Nitrite as N	2.57	0.1	mg/L	2.50		103	90-110			
Matrix Spike (BCK0027-MS1)				Source: 19J0877-02 Prepared & Analyzed: 11/01/2019						
Nitrate+Nitrite as N	2.42	0.10	mg/L	2.50	BLOD	97.0	90-110			
Matrix Spike Dup (BCK0027-MSDT)				Source: 19J0877-02 Prepared & Analyzed: 11/01/2019						
Nitrate+Nitrite as N	2.41	0.10	mg/L	2.50	BLOD	96.5	90-110	0.538	20	

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Analyzed by EPA approved Samplers Methods			Preparation Method	EPA/MSD/MSL 2	
TL0024-01	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-02	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-03	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-04	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-05	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-06	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-07	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-08	50.0 mL / 50.0 mL	SW9810C	SCJ070	SCJ0704	AJ00106
TL0024-09	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
TL0024-10	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
TL0024-11	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0873	AJ00134
TL0024-12	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
TL0024-13	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
TL0024-14	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
TL0024-15	50.0 mL / 50.0 mL	SW9810C	SCJ080	SCJ0844	AJ00124
Metals Analyzed by GC			Preparation Method	No Prep VOC	
TL0024-01	1.00 mL / 1.00 mL	EPA8210-D-02-1	SCJ080	SCJ0950	AJ00003
TL0024-02	1.00 mL / 1.00 mL	EPA8210-D-02-1	SCJ080	SCJ0950	AJ00003
TL0024-03	1.00 mL / 1.00 mL	EPA8210-D-02-1	SCJ080	SCJ0950	AJ00003
TL0024-06	1.00 mL / 1.00 mL	EPA8210-D-02-1	SCJ080	SCJ0985	AJ00003
TL0024-07	1.00 mL / 1.00 mL	EPA8210-D-02-1	SCJ080	SCJ0985	AJ00003
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals Analyzed by GC			Preparation Method	No Prep VOC	

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Lead Spec Analysis by GC					
			Preparation Method	No Prep W/D	
19A0026-01	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-02	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-02B1	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-03	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-04	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-05	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-06C1	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
19A0026-07	5.00 mL / 10.00 mL	8061758	SC0000	SC0000	A00001
Wet Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
19A0026-01	25.0 mL / 25.0 mL	SM02-4500-NC08-2011	BCJ0724	SC0002	A00002
19A0026-02	25.0 mL / 25.0 mL	SM02-4500-NC08-2011	BCJ0724	SC0002	A00002
19A0026-03	25.0 mL / 25.0 mL	SM02-4500-NC08-2011	BCJ0724	SC0002	A00002
19A0026-06	25.0 mL / 25.0 mL	SM02-4500-NC08-2011	BCJ0724	SC0002	A00002
19A0026-07	25.0 mL / 25.0 mL	SM02-4500-NC08-2011	BCJ0724	SC0002	A00002
19A0026-01	6.00 mL / 6.00 mL	SW0215	BCJ0816	SC0006	A00002
19A0026-02	6.00 mL / 6.00 mL	SW0215	BCJ0816	SC0006	A00002
19A0026-03	6.00 mL / 6.00 mL	SW0215	BCJ0816	SC0006	A00002
19A0026-06	6.00 mL / 6.00 mL	SW0215	BCJ0816	SC0007	A00002
19A0026-07	6.00 mL / 6.00 mL	SW0215	BCJ0816	SC0007	A00002
19A0026-01	2.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-02B1	5.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-02	2.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-02B1	5.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-03	2.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-03B1	5.00 mL / 5.00 mL	SM02-4500-NC08-2011	BCJ0724	SC0000	A00002
19A0026-07	10.0 mL / 10.0 mL	SM02-10000-2011	BCJ0724	SC0000	A00002

Certificate of Analysis

Client Name: Golden Associates, Inc.
 Client Site I.D.: Laurel Valley Corrective Action Wells
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Met Chemistry Analysis					
			Preparation Method	No Prep Wet Chem	
19A0001-01	50.0 mL / 100.0 mL	SM02 20000-2011	SC11006	SC11006	
19A0001-02	50.0 mL / 100.0 mL	SM02 20000-2011	SC11006	SC11006	
19A0001-03	50.0 mL / 100.0 mL	SM02 20000-2011	SC11006	SC11006	
19A0001-07	50.0 mL / 100.0 mL	SM02 20000-2011	SC11006	SC11006	
19A0001-04	1.00 mL / 10.00 mL	SM02 4000-AC10F-2011	SC00007	SC00017	A000002
19A0001-05E 1	5.00 mL / 5.00 mL	SM02 4000-AC10F-2011	SC00007	SC00017	A000002
19A0001-07	1.00 mL / 10.00 mL	SM02 4000-AC10F-2011	SC00007	SC00017	A000002
19A0001-07E 1	5.00 mL / 5.00 mL	SM02 4000-AC10F-2011	SC00007	SC00017	A000002
			Preparation Method	SW1000B	
19A0033-01	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000116
19A0033-02	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000115
19A0033-03	5.00 mL / 5.00 mL	SW02000	DCJ0723	SCJ0043	A000115
19A0033-04	5.00 mL / 5.00 mL	SW02000	DCJ0723	SCJ0043	A000115
19A0033-05	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000116
19A0033-06	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000115
19A0033-07	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000115
19A0033-08	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000115
19A0033-09	5.00 mL / 5.00 mL	SW02000	DCJ0722	SCJ0043	A000115
19A0033-01	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-02	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-04	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-07	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-03	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-05	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-06	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-08	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000
19A0033-09	5.00 mL / 10.00 mL	SW02000	DCJ0728	SCJ0044	A000000

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by SCDB			Preparation Method	SW5030B	
16A0894-01	5.00 mL / 5.00 mL	SW5030B	SCJ0692	SCJ0692	AH00090
16A0894-02	5.00 mL / 5.00 mL	SW5030B	SCJ0692	SCJ0692	AH00090
16A0894-03	5.00 mL / 5.00 mL	SW5030B	SCJ0692	SCJ0692	AH00090
Metals (Total) by EPA 8220/1005 Series Methods			Preparation Method	SW7470A	
16A0894-01	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095
16A0894-02	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095
16A0894-03	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095
16A0894-04	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095
16A0894-05	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095
16A0894-06	20.0 mL / 20.0 mL	SW7470A	SCJ0613	SCJ0682	AJ00095

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Certified Analyses included in this Report

Analyte	Certification
<i>EPAL0610 R2.1 in Non-Potable Water</i>	
Chloride	VELAP/NC, W/DEP
Sulfate	VELAP/NC, W/DEP
<i>MS1175M in Non-Potable Water</i>	
Methane	VELAP
<i>SM22 2320B-2011 in Non-Potable Water</i>	
Alkalinity	VELAP/W/DEP
<i>SM22 4500-NO2B-2011 in Non-Potable Water</i>	
Nitrite as N	VELAP/W/DEP
<i>SM22 4500-NO3F-2011 in Non-Potable Water</i>	
Nitrate+Nitrite as N	VELAP/W/DEP
<i>SW6010C in Non-Potable Water</i>	
Cobalt	VELAP/W/DEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP/NC, W/DEP
<i>SW8260D in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC, VELAP, W/DEP
1,1,1-Trichloroethane	NC, VELAP, W/DEP
1,1,2,2-Tetrachloroethane	NC, VELAP, W/DEP
1,1,2-Trichloroethane	NC, VELAP, W/DEP
1,1-Dichloroethane	NC, VELAP, W/DEP
1,1-Dichloroethylene	NC, VELAP, W/DEP
1,1,3-Trichloropropane	NC, VELAP, W/DEP
1,2-Dichlorobenzene	NC, VELAP, W/DEP
1,2-Dichloroethane	NC, VELAP, W/DEP

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Certified Analyses included in this Report

Analyte	Certification
1,2-Dichloroethane	NC VCLAP W/DEP
1,4-Dichlorobenzene	NC VCLAP W/DEP
2-Butanone (MEK)	NC VCLAP W/DEP
2-Hexanone (MIBK)	NC VCLAP W/DEP
4-Methyl-2-pentanone (MIBK)	NC VCLAP W/DEP
Acetone	NC VCLAP W/DEP
Acrylonitrile	NC VCLAP W/DEP
Benzene	NC VCLAP W/DEP
Bromochloroethane	NC VCLAP W/DEP
Bromoethane	NC VCLAP W/DEP
Bromochloromethane	NC VCLAP W/DEP
Bromomethane	NC VCLAP W/DEP
Carbon disulfide	NC VCLAP W/DEP
Carbon tetrachloride	NC VCLAP W/DEP
Chlorobenzene	NC VCLAP W/DEP
Chloroethane	NC VCLAP W/DEP
Chloroform	NC VCLAP W/DEP
Chloromethane	NC VCLAP W/DEP
cis-1,2-Dichloroethylene	NC VCLAP W/DEP
cis-1,3-Dichloropropene	NC VCLAP W/DEP
Dibromochloromethane	NC VCLAP W/DEP
Dibromomethane	NC VCLAP W/DEP
Dichlorodifluoromethane	NC VCLAP W/DEP
Ethylbenzene	NC VCLAP W/DEP
Iodomethane	NC VCLAP W/DEP
m,p-Xylenes	NC VCLAP W/DEP
Methylene chloride	NC VCLAP W/DEP
Naphthalene	NC VCLAP W/DEP

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Certified Analyses included in this Report

Analyte	Certification
<i>o</i> -Xylene	NC, VELAP, WDEP
Styrene	NC, VELAP, WDEP
Tetrachloroethylene (PCE)	NC, VELAP, WDEP
Toluene	NC, VELAP, WDEP
trans-1,2-Dichloroethylene	NC, VELAP, WDEP
trans-1,3-Dichloropropene	NC, VELAP, WDEP
trans-1,4-Dichloro-2-butene	NC, VELAP, WDEP
Trichloroethylene	NC, VELAP, WDEP
Trichlorofluoromethane	NC, VELAP, WDEP
Vinyl acetate	NC, VELAP, WDEP
Vinyl chloride	NC, VELAP, WDEP
Xylenes, Total	NC, VELAP, WDEP
<i>SW9215 in Non-Potable Water</i>	
Sulfide	VELAP

Code	Description	Cert. Number	Expires
MDDE	Maryland DE Drinking Water	341	12/31/2019
NC	North Carolina DENR	495	12/31/2020
VELAP Certificate #4337	NELAP Virginia Certificate #10503	40002-1	06/14/2020
WVDEP	West Virginia DEP	888	11/30/2019

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Qualifiers and Definitions

C	Continuing calibration verification response for this analyte is outside specifications.
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TK:	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TK spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1941 KEYMET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 288-8285 PHONE
 (804)288-8287 FAX

Order of Custody
 Effective Nov 15, 2018

CHAIN OF CUSTODY

2547 CASH PAGE 1 OF 1

COMPANY NAME: Golden Associates INVOICE TO: Caloper Center PROJECT NAME/Quote #: Laurel Valley Corrective Action
 CONTACT: Michelle Clary INVOICE CONTACT: Paul Howard SITE NAME: Laurel Valley Corrective Action Wells
 ADDRESS: 1108 W. Lombard Ave., Suite 200 INVOICE ADDRESS: PROJECT NUMBER: 19179362
 PHONE #: 804-358-7900 INVOICE PHONE #: 516-287-9809 P.O. #:
 FAX #: 804-358-2810 EMAIL: mclary@golden.com Preservation Program:
 Is sample for compliance reporting? YES/NO Regularly used VA Is sample from a chlorinated supply? YES NO PYS ID #:
 SAMPLER NAME (PRINT): M. O'Neil / M. Taylor SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Days

CLIENT SAMPLE ID	Disc	Composite	Field Filtered (Distilled Matrix)	Composite Start Date	Composite Start Time	Grate Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Coding)	Number of Containers	ANALYSIS / (PRESERVATIVE)								COMMENTS							
											VOC TH 3.0A Chloroethene/Chloroethane	Co SW6210	Pb	Hg SW8470	Nitrothene SW8280	Arsenic (Cd), Alkalinity, Chloride, Sulfate, Nitrate, Phosphate	Chromium	Cadmium		Sulfide						
11 MW-22	X										X															
12 P2-4E	X										X															
13 MW-30	X										X															
14 10P1005	X										X															

GA 19J0826
 Laurel Valley Corrective Action
 Recd: 10/17/2019 Due: 10/31/2019

10/21/19 1000
 10/18/19 1000
 10/18/19 1000

Address: 1017 Laurel Valley Place
Caloper, VA 23201

Page 137 of 140



Sample Preservation Log

Sample Preservation Log
 Form 1 (Rev. 11/10)
 EPA 816
 Effective Nov. 10, 2010
 Page 1 of 1

Order ID: 19A0026

Date Performed: 11/13/19

Analyst Performing Check: ELK2

Sample ID	Vial	Matrix		Spikes		Buffers		Acetone		TKN	Phos. Tot	NO ₃ -NO ₂	NH ₄	Methods (M1-M20)		SVOC (SV1-SV20)		COT		PRESERVE (P1-P2)		
		1	2	1	2	1	2	1	2					1	2	1	2	1	2	1	2	1	2
01	A					/																
01	B	/																				
01	C											/										
02	A					/																
02	B	/																				
02	C											/										
03	A					/																
03	B											/										

NaOH ID: _____ HCl ID: _____ COT preserved (optional) _____ Analyst Initials: _____
 * pH must be adjusted between 8.0 - 8.7
 HNO₃ ID: _____ Na₂SO₄ ID: _____ Buffer Buffer ID: _____
 HCl ID: _____ Na₂CO₃ ID: _____ 1N NaOH ID: _____ 6N NaOH: _____

CHAIN OF CUSTODY

COMPANY NAME: Golden Associates	INVOICE TO: <u>Culpeper County</u>	PROJECT NAME/QUIN # <u>2-SAL-9, G CA GW</u>
CONTACT: <u>Melinda Story</u>	INVOICE CONTACT: <u>Fred Howard</u>	SITE NAME: <u>Laurel Valley Corrective Action Wells</u>
ADDRESS: <u>1800 W. Laburnum Ave, Suite 200</u>	INVOICE ADDRESS:	PROJECT NUMBER: <u>19103567</u>
PHONE # <u>804-358-7800</u>	INVOICE PHONE # <u>540-227-2467</u>	P.O. #
FAX # <u>804-358-2800</u>	EMAIL: <u>frclava@golden.com</u>	Pretreatment Program:
Is sample for compliance reporting? <input checked="" type="radio"/> NO <input type="radio"/> YES		Regulatory State: <u>VA</u>
Is sample from a chlorinated supply? <input checked="" type="radio"/> YES <input type="radio"/> NO		PWS ID #
SAMPLER NAME (PRINT): <u>M. Story/M. Taylor</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: Circle 10 5 Days or Day(s)

CLIENT SAMPLE I.D.	1	2	3	4	5	6	7	8	9	10	ANALYSIS / PRESERVATIVE						COMMENTS							
											Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Column 10)		Number of Containers	VOC, Pesticides, Organochlorine	Hg, SW630	Inorganic Ammonia	Nitrate (Ca), Ammonia, Chloride, Sulfate	Mercury	Sulfide
1. MW-1C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
2. MW-1D	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
3. MW-1E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
4. MW-2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
5. MW-5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
6. MW-6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
7. MW-X1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							
8. MW-X20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X							

ANALYST: <u>[Signature]</u> DATE: <u>10/17/2019</u> TIME: <u>1:00</u> CHECKED BY: <u>[Signature]</u> DATE: <u>10/17/2019</u> TIME: <u>1:00</u>	QC Data Package: <input type="checkbox"/> <input checked="" type="checkbox"/> Lab Use Only: <input type="checkbox"/> <input checked="" type="checkbox"/> Cooling Temp: <u>5°C</u>
ADDRESS: <u>1800 W. Laburnum Ave, Suite 200, Richmond, VA 23231</u> PHONE: <u>804-358-7800</u> FAX: <u>804-358-2800</u>	PROJECT: <u>2-SAL-9, G CA GW</u> SITES: <u>LAUREL VALLEY CORRECTIVE ACTION WELLS</u> ANALYST: <u>[Signature]</u> DATE: <u>10/17/2019</u> TIME: <u>1:00</u>



Sample Preservation Log

Sample Preservation Log
 Form # F100
 Rev # 01
 Effective Date 01, 2014
 Page 1 of 1

Order ID: 19-00033

Date Performed: 10/18/19

Analyst Performing Check: LVR2

Sample ID	Well	Meths	Organic	Inorganic	Ammonia	TKN	Phos. Tot	NO3-NO2	DRO	Pesticide Residues	VOC	Chloride		Sulfide	Sulfate	
												Free	Total			
01	A	✓														
02	A	✓														
03	A	✓														
04	A	✓														
05	A	✓														
06	A	✓														
07	A	✓														
08	A	✓														

NaOH ID: _____ HNO3 ID: _____ Chloride preserved solution: _____ Analyzed Volume: _____
 pH must be adjusted between 8.0 - 8.7
 NaOH ID: _____ HNO3 ID: _____ Buffer Salt ID: _____
 HCl ID: _____ NaOH ID: _____ H2 NaOH ID: _____ HCl NaOH ID: _____

*This is only suitable for Chloride and not Total Chloride as measured under NIOSH 1808 for water uses.

CHAIN OF CUSTODY

25419 (A) GW PAGE 1 OF 1

COMPANY NAME: Golden Associates	INVOICE TO: Culpeper County	PROJECT NAME/OWNER: Level II Safety Facility
CONTACT: Michelle Dery Paul Horvath	INVOICE CONTACT: Paul Horvath	SITE NAME: Laurel Valley Corrective Action Wells
ADDRESS: #400 W. Latham Ave. Suite 200	INVOICE ADDRESS:	PROJECT NUMBER: 011536A
PHONE #: 804-358-7900	INVOICE PHONE #: 540-727-3409	P.O. #
FAX #: 804-358-3400	EMAIL: mcclary@golden.com	Pre-treatment Program
Is sample for compliance reporting? <input checked="" type="checkbox"/> NO <small>Regulatory State V4</small>	Is sample from a chlorinated supply? <input checked="" type="checkbox"/> YES	PAS ID #
SAMPLER NAME (PRINT): M. Dery	SAMPLER SIGNATURE: <i>[Signature]</i>	Turn Around Time: 10 Days or Days

Media Codes: 10=Surface Water 20=Ground Water 30=Drinking Water 40=Surface 50=Open 60=Air 80=Soil 90=Other

CLIENT SAMPLE ID	Crab	Composite	Field Filtered (Distilled Media)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Media (See Codes)	Number of Containers	ANALYSIS / PRESERVATIVE							COMMENTS
											VOC III 3, 4, 6 Distillation/Extraction	Ce 5058/51	Hg 5057-4/5	Amphibious 518/516	Metals (Cd, Arsenic, Chromium, Sulfate, Nitrite)	Mercury	Sulfide	
1. MW-1F	X	X	X							1								
2. MW-1B	X	X	X							1								
3. MW-1H	X	X	X							1								
4. MW-1J	X	X	X							1								
5. CLF-1	X	X	X							1								
6. CLF-5A	X	X	X							1								
7. CLF-5B	X	X	X							1								
8. CLF-5J	X	X	X							1								

DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>	DATE: 10/15/19 147 SIGNATURE: <i>[Signature]</i>
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Sample Preservation Log

Sample Preservation Log
 Form # 1000
 Rev # 04
 Effective July 20, 2004
 Page 1 of 1

Order ID: PL10000

Date Performed: 10/20/10

Analyst Performing Check: [Signature]

Sample ID	Matrix	Quantity	Buffer	Acid/Alkali	Temp	Pres. Temp	NO ₃ -N/NO ₂ -N	NH ₄ -N	Pesticide Residues	BDOC	COT		Pesticide Residues		Date	Time	
											mg/L	mg/L	mg/L	mg/L			
1001	Water	100 mL	✓														
1002	Water	100 mL	✓														
1003	Water	100 mL	✓														
1004	Water	100 mL	✓														
1005	Water	100 mL	✓														
1006	Water	100 mL	✓														
1007	Water	100 mL	✓														
1008	Water	100 mL	✓														
1009	Water	100 mL	✓														
1010	Water	100 mL	✓														

NO₃-N ID: _____ NH₄-N ID: _____ COT preserved (yes/no): _____ Analyst Initials: _____
 pH must be adjusted between 6.7 - 8.7
 Buffer Salt ID: _____
 NO₃-N ID: _____ NH₄-N ID: _____ BDOC ID: _____

*This log applies only to COT and not to NH₄-N or NO₃-N. COT is an optional analysis under 40 CFR 141.26.

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Trip Blank date and time (3 Oct 2019 09:24) as per bottle label.

Samples logged for Total Methane RDX 75.

Michele Clary notified by email.

THM 17 Oct 2019 17:14

As per Michele Clary: Samples to be analyzed for Total Methane RDX 75, THM 22
Oct 2019 09

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Sample Conditions Checklist

Sample Received at	DATE
Were any samples received?	NO/None
Were custody seals used? If so, were they removed intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature check on representative samples within acceptable limits or preserved in ice, and securely sealed?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA824, EPA826, EPA824, EPA825 (GH), EPA825, EPA824, and RSC 1/5.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but field preservation may delay analysis.	Yes

Work Sheet Comments

Trip Blanks logged as per sample container label (10/2/19 15:10). Michele Clary notified via email. KMC 10/18/19 09:17

Certificate of Analysis

Client Name: Golden Associates, Inc.
Client Site I.D.: Laurel Valley Corrective Action Wells
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:39:34PM

Sample Conditions Checklist

Sample Received at	CLP:
Were all samples received?	All Issues
Were custody tags used? For air, were they received intact?	Yes
Was the custody paper filled out completely and correctly?	No
Are all bottle labels agree with custody papers?	No
Is the impregnation blank or representative sample with acceptable levels of preservatives, and correctly labeled?	No
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA824, EPA8260, EPA824, EPA8261 (2H), EPA8271, EPA828, and ROR 1/5.	Yes
Are all samples received appropriately preserved? Note that metal containers do not require field preservation but field preservation may delay analysis.	Yes

Work Scope Comments

Date and times for CLF-15A and CLF-50 logged as per sample container label.
Michele Clary notified via phone.

No trip blank received. Michele Clary notified via email. SE 10/18/19 1500

As per Michele Clary, reference Trip Blanks on 16U084C received on 10/17/19 for this work order. SE 10/21/19 1136



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, VA 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Laboratory Sample ID: 19J0840-01 Client Sample ID: MW-1B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6010C	0.182		0.0050	0.0100	1	mg/L
Cadmium	01	SW6010C	0.0111		0.0020	0.0040	1	mg/L
Cobalt	01	SW6010C	0.0305		0.0020	0.0040	1	mg/L
Copper	01	SW6010C	0.0105		0.0030	0.0100	1	mg/L
Lead	01	SW6020A	1.77		1.00	1.00	1	ug/L
Mercury	01	SW7470A	0.00031		0.00020	0.00020	1	mg/L
Nickel	01	SW6010C	0.0094	J	0.0020	0.0100	1	mg/L
Zinc	01	SW6010C	0.0287		0.0100	0.0100	1	mg/L
1,1-Dichloroethane	01	SW8260D	9.27		0.60	1.00	1	ug/L
1,2-Dichloropropane	01	SW8260D	0.60	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260D	4.19		0.40	1.00	1	ug/L
Benzene	01	SW8260D	1.31		0.40	1.00	1	ug/L
Chlorobenzene	01	SW8260D	2.40		0.40	1.00	1	ug/L
Chloroethane	01	SW8260D	1.81		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260D	11.2		0.40	1.00	1	ug/L
Trichloroethylene	01	SW8260D	0.80	J	0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260D	3.11		0.50	0.50	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Laboratory Sample ID: 19J0840-02 Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	02	SW6020A	0.82	J	0.50	1.0	1	ug/L
Barium	02	SW6010C	0.320		0.0050	0.0100	1	mg/L
Chromium	02	SW6010C	0.0075	J	0.0040	0.0100	1	mg/L
Cobalt	02	SW6010C	0.0402		0.0020	0.0040	1	mg/L
Copper	02	SW6010C	0.0255		0.0030	0.0100	1	mg/L
Lead	02	SW6020A	1.33		1.00	1.00	1	ug/L
Nickel	02	SW6010C	0.1356		0.0020	0.0100	1	mg/L
Vanadium	02	SW6010C	0.0238		0.0080	0.0100	1	mg/L
Zinc	02	SW6010C	0.0197		0.0100	0.0100	1	mg/L
1,1-Dichloroethane	02	SW8260D	3.13		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260D	1.38		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	15.7		0.40	1.00	1	ug/L
Acetone	02	SW8260D	9.41	J	7.00	10.0	1	ug/L
Benzene	02	SW8260D	1.87		0.40	1.00	1	ug/L
Chlorobenzene	02	SW8260D	14.7		0.40	1.00	1	ug/L
Chloroethane	02	SW8260D	0.81	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	4.49		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260D	1.15		0.40	1.00	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Laboratory Sample ID: 19J0840-04 Client Sample ID: MW-4

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	04	SW6020A	0.89	J	0.50	1.0	1	ug/L
Barium	04	SW6010C	0.156		0.0050	0.0100	1	mg/L
Chromium	04	SW6010C	0.0190		0.0040	0.0100	1	mg/L
Cobalt	04	SW6010C	0.0238		0.0020	0.0040	1	mg/L
Copper	04	SW6010C	0.0197		0.0030	0.0100	1	mg/L
Lead	04	SW6020A	5.08		1.00	1.00	1	ug/L
Nickel	04	SW6010C	0.0200		0.0020	0.0100	1	mg/L
Vanadium	04	SW6010C	0.0534		0.0080	0.0100	1	mg/L
Zinc	04	SW6010C	0.0546		0.0100	0.0100	1	mg/L
1,1-Dichloroethane	04	SW8260D	1.65		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	04	SW8260D	0.41	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260D	10.9		0.40	1.00	1	ug/L
Benzene	04	SW8260D	1.89		0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260D	8.93		0.40	1.00	1	ug/L
Chloroethane	04	SW8260D	0.85	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260D	2.10		0.40	1.00	1	ug/L
o-Xylene	04	SW8260D	1.00		0.40	1.00	1	ug/L
Xylenes, Total	04	SW8260D	1.00	J	1.00	3.00	1	ug/L

Laboratory Sample ID: 19J0840-05 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6010C	0.0185		0.0050	0.0100	1	mg/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Laboratory Sample ID: 19J0947-01 Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	01	SW6020A	0.53	J	0.50	1.0	1	ug/L
Barium	01	SW6010C	0.455		0.0050	0.0100	1	mg/L
Cadmium	01	SW6010C	0.0038	J	0.0020	0.0040	1	mg/L
Cobalt	01	SW6010C	0.108		0.0020	0.0040	1	mg/L
Copper	01	SW6010C	0.0036	J	0.0030	0.0100	1	mg/L
Mercury	01	SW7470A	0.00046		0.00020	0.00020	1	mg/L
Nickel	01	SW6010C	0.0105		0.0020	0.0100	1	mg/L
Zinc	01	SW6010C	0.0210		0.0100	0.0100	1	mg/L
1,4-Dichlorobenzene	01	SW8260D	5.66		0.40	1.00	1	ug/L
Benzene	01	SW8260D	0.80	J	0.40	1.00	1	ug/L
Chlorobenzene	01	SW8260D	1.91		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260D	3.70		0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260D	0.52		0.50	0.50	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Sample Delivery Group ID Laurel Compliance 191023

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave. Suite 200
Richmond, VA 23227

Date Issued: 11/5/2019 3:31:44PM

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Sanitary Landfill

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group Laurel Compliance 191023 . Work orders included in the sample delivery group:

<u>Work Order</u>	<u>Receive Date</u>	<u>Project Number</u>
19J0840	10/17/2019 2:30:00PM	19115362
19J0947	10/18/2019 2:35:00PM	19115362



Ted Soyars

Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Sanitary Landfill
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	19J0840-01	Ground Water	10/15/2019 13:15	10/17/2019 14:30
MW-2B	19J0840-02	Ground Water	10/15/2019 12:30	10/17/2019 14:30
MW-3A	19J0840-03	Ground Water	10/16/2019 13:30	10/17/2019 14:30
MW-4	19J0840-04	Ground Water	10/15/2019 13:30	10/17/2019 14:30
MW-20	19J0840-05	Ground Water	10/16/2019 09:35	10/17/2019 14:30
Field Blank	19J0840-06	Ground Water	10/15/2019 14:43	10/17/2019 14:30
Trip Blank	19J0840-07	Ground Water	10/03/2019 09:24	10/17/2019 14:30
MW-3A	19J0947-01	Ground Water	10/16/2019 13:30	10/18/2019 14:35



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19J0840-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	01	7440-38-2	SW6020A	10/18/2019 15:00	10/23/2019 16:30	BLOD		0.50	1.0	1	ug/L	RCV
Barium	01	7440-39-3	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.182		0.0050	0.0100	1	mg/L	SNL
Beryllium	01	7440-41-7	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	01	7440-43-9	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.0111		0.0020	0.0040	1	mg/L	SNL
Cobalt	01	7440-48-4	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.0305		0.0020	0.0040	1	mg/L	SNL
Chromium	01	7440-47-3	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0040	0.0100	1	mg/L	SNL
Copper	01	7440-50-8	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.0105		0.0030	0.0100	1	mg/L	SNL
Mercury	01	7439-97-6	SW7470A	10/18/2019 09:45	10/21/2019 10:53	0.00031		0.00020	0.00020	1	mg/L	MWL
Nickel	01	7440-02-0	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.0094	J	0.0020	0.0100	1	mg/L	SNL
Lead	01	7439-92-1	SW6020A	10/18/2019 15:00	10/23/2019 16:30	1.77		1.00	1.00	1	ug/L	RCV
Antimony	01	7440-36-0	SW6020A	10/18/2019 15:00	10/23/2019 16:30	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	01	7782-49-2	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	01	7440-31-5	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	01	7440-28-0	SW6020A	10/18/2019 15:00	10/23/2019 16:30	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	01	7440-62-2	SW6010C	10/18/2019 15:00	10/22/2019 13:08	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	01	7440-66-6	SW6010C	10/18/2019 15:00	10/22/2019 13:08	0.0287		0.0100	0.0100	1	mg/L	SNL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	9.27		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.70	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19J0840-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,2,3-Trichloropropane	01	96-18-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	0.60	J	0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260D	10/18/2019 13:15	10/18/2019 13:15	4.19		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW8260D	10/18/2019 13:15	10/18/2019 13:15	1.31		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260D	10/18/2019 13:15	10/18/2019 13:15	2.40		0.40	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	1.81		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260D	10/18/2019 13:15	10/18/2019 13:15	11.2		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.35	0.50	1	ug/L	KCS



Certificate of Analysis

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 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19J0840-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Dibromomethane	01	74-95-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	01	91-20-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	10/18/2019 13:15	10/18/2019 13:15	0.80	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	10/18/2019 13:15	10/18/2019 13:15	3.11		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	10/18/2019 13:15	10/18/2019 13:15	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>01</i>	<i>91.7 %</i>	<i>70-120</i>	<i>10/18/2019 13:15</i>	<i>10/18/2019 13:15</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>01</i>	<i>97.7 %</i>	<i>75-120</i>	<i>10/18/2019 13:15</i>	<i>10/18/2019 13:15</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>01</i>	<i>99.1 %</i>	<i>70-130</i>	<i>10/18/2019 13:15</i>	<i>10/18/2019 13:15</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>01</i>	<i>96.7 %</i>	<i>70-130</i>	<i>10/18/2019 13:15</i>	<i>10/18/2019 13:15</i>							



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19J0840-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	92-67-1	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		2.13	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		2.13	10.6	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		3.19	10.6	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		4.26	10.6	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270E	10/18/2019 09:10	10/18/2019 19:37	BLOD		3.19	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>01</i>	<i>68.7 %</i>	<i>10-86</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>01</i>	<i>39.3 %</i>	<i>9-87</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>01</i>	<i>18.1 %</i>	<i>10-52</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>01</i>	<i>48.1 %</i>	<i>10-98.5</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							
<i>Surr: Phenol-d5 (Surr)</i>	<i>01</i>	<i>16.3 %</i>	<i>5-33</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>01</i>	<i>53.2 %</i>	<i>27-133</i>	<i>10/18/2019 09:10</i>	<i>10/18/2019 19:37</i>							



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19J0840-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	01	1031-07-8	SW8081B	10/18/2019 13:25	10/22/2019 17:48	BLOD		0.005	0.053	1	ug/L	LBH2
Surr: TCMX	01	80.0 %	18-112	10/18/2019 13:25	10/22/2019 17:48							
Surr: DCB	01	75.0 %	27-131	10/18/2019 13:25	10/22/2019 17:48							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 13:13	BLOD		0.100	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	<i>01</i>	<i>85.0 %</i>	<i>60-112</i>	<i>10/21/2019 14:17</i>	<i>10/25/2019 13:13</i>							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 17:40	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	01	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 17:40	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 17:40	BLOD		0.005	0.010	1	ug/L	LBH2



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	01	18496-25-8	SW9215	10/21/2019 13:16	10/21/2019 13:16	BLOD		0.80	1.00	1	mg/L	TDL



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Client Sample ID: MW-2B

Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	10/18/2019 15:00	10/22/2019 13:29	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	02	7440-38-2	SW6020A	10/18/2019 15:00	10/23/2019 16:37	0.82	J	0.50	1.0	1	ug/L	RCV
Barium	02	7440-39-3	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.320		0.0050	0.0100	1	mg/L	SNL
Beryllium	02	7440-41-7	SW6010C	10/18/2019 15:00	10/22/2019 13:29	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	02	7440-43-9	SW6010C	10/18/2019 15:00	10/22/2019 13:29	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	02	7440-48-4	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.0402		0.0020	0.0040	1	mg/L	SNL
Chromium	02	7440-47-3	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.0075	J	0.0040	0.0100	1	mg/L	SNL
Copper	02	7440-50-8	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.0255		0.0030	0.0100	1	mg/L	SNL
Mercury	02	7439-97-6	SW7470A	10/18/2019 09:45	10/21/2019 10:55	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	02	7440-02-0	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.1356		0.0020	0.0100	1	mg/L	SNL
Lead	02	7439-92-1	SW6020A	10/18/2019 15:00	10/23/2019 16:37	1.33		1.00	1.00	1	ug/L	RCV
Antimony	02	7440-36-0	SW6020A	10/18/2019 15:00	10/23/2019 16:37	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	02	7782-49-2	SW6010C	10/18/2019 15:00	10/22/2019 13:29	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	02	7440-31-5	SW6010C	10/18/2019 15:00	10/22/2019 13:29	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	02	7440-28-0	SW6020A	10/18/2019 15:00	10/23/2019 16:37	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	02	7440-62-2	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.0238		0.0080	0.0100	1	mg/L	SNL
Zinc	02	7440-66-6	SW6010C	10/18/2019 15:00	10/22/2019 13:29	0.0197		0.0100	0.0100	1	mg/L	SNL



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Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	02	79-34-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	3.13		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	1.38		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260D	10/18/2019 13:38	10/18/2019 13:38	15.7		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	9.41	J	7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW8260D	10/18/2019 13:38	10/18/2019 13:38	1.87		0.40	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW8260D	10/18/2019 13:38	10/18/2019 13:38	14.7		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-00-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	0.81	J	0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260D	10/18/2019 13:38	10/18/2019 13:38	4.49		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	02	78-83-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	02	91-20-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260D	10/18/2019 13:38	10/18/2019 13:38	1.15		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.80	1.00	1	ug/L	KCS



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 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	02	108-05-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260D	10/18/2019 13:38	10/18/2019 13:38	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	02	90.2 %	70-120	10/18/2019 13:38	10/18/2019 13:38							
Surr: 4-Bromofluorobenzene (Surr)	02	99.1 %	75-120	10/18/2019 13:38	10/18/2019 13:38							
Surr: Dibromofluoromethane (Surr)	02	94.5 %	70-130	10/18/2019 13:38	10/18/2019 13:38							
Surr: Toluene-d8 (Surr)	02	97.6 %	70-130	10/18/2019 13:38	10/18/2019 13:38							



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Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	02	92-67-1	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		2.13	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		2.13	10.6	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		3.19	10.6	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		4.26	10.6	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270E	10/21/2019 09:25	10/22/2019 12:36	BLOD		3.19	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	02	86.9 %	10-86	10/21/2019 09:25	10/22/2019 12:36							S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	02	40.5 %	9-87	10/21/2019 09:25	10/22/2019 12:36							
<i>Surr: 2-Fluorophenol (Surr)</i>	02	18.6 %	10-52	10/21/2019 09:25	10/22/2019 12:36							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	02	46.6 %	10-98.5	10/21/2019 09:25	10/22/2019 12:36							
<i>Surr: Phenol-d5 (Surr)</i>	02	16.8 %	5-33	10/21/2019 09:25	10/22/2019 12:36							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	02	58.5 %	27-133	10/21/2019 09:25	10/22/2019 12:36							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	02	1031-07-8	SW8081B	10/18/2019 13:25	10/22/2019 18:08	BLOD		0.005	0.053	1	ug/L	LBH2
Surr: TCMX	02	90.0 %	18-112	10/18/2019 13:25	10/22/2019 18:08							
Surr: DCB	02	55.0 %	27-131	10/18/2019 13:25	10/22/2019 18:08							



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Laboratory Sample ID: 19J0840-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 13:35	BLOD		0.100	0.500	1	ug/L	SKS
Surr: DCAA (Surr)	02	85.0 %	60-112	10/21/2019 14:17	10/25/2019 13:35							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 17:59	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	02	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 17:59	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 17:59	BLOD		0.005	0.010	1	ug/L	LBH2



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	02	18496-25-8	SW9215	10/21/2019 13:16	10/21/2019 13:16	BLOD		0.80	1.00	1	mg/L	TDL



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Client Sample ID: MW-3A

Laboratory Sample ID: 19J0840-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 18:18	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	03	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 18:18	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 18:18	BLOD		0.005	0.010	1	ug/L	LBH2



Certificate of Analysis

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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010C	10/18/2019 15:00	10/22/2019 13:31	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	04	7440-38-2	SW6020A	10/18/2019 15:00	10/23/2019 16:39	0.89	J	0.50	1.0	1	ug/L	RCV
Barium	04	7440-39-3	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.156		0.0050	0.0100	1	mg/L	SNL
Beryllium	04	7440-41-7	SW6010C	10/18/2019 15:00	10/22/2019 13:31	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	04	7440-43-9	SW6010C	10/18/2019 15:00	10/22/2019 13:31	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	04	7440-48-4	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0238		0.0020	0.0040	1	mg/L	SNL
Chromium	04	7440-47-3	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0190		0.0040	0.0100	1	mg/L	SNL
Copper	04	7440-50-8	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0197		0.0030	0.0100	1	mg/L	SNL
Mercury	04	7439-97-6	SW7470A	10/18/2019 09:45	10/21/2019 10:57	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	04	7440-02-0	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0200		0.0020	0.0100	1	mg/L	SNL
Lead	04	7439-92-1	SW6020A	10/18/2019 15:00	10/23/2019 16:39	5.08		1.00	1.00	1	ug/L	RCV
Antimony	04	7440-36-0	SW6020A	10/18/2019 15:00	10/23/2019 16:39	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	04	7782-49-2	SW6010C	10/18/2019 15:00	10/22/2019 13:31	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	04	7440-31-5	SW6010C	10/18/2019 15:00	10/22/2019 13:31	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	04	7440-28-0	SW6020A	10/18/2019 15:00	10/23/2019 16:39	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	04	7440-62-2	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0534		0.0080	0.0100	1	mg/L	SNL
Zinc	04	7440-66-6	SW6010C	10/18/2019 15:00	10/22/2019 13:31	0.0546		0.0100	0.0100	1	mg/L	SNL



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Client Sample ID: MW-4

Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	04	79-34-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	1.65		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	0.41	J	0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW8260D	10/18/2019 14:22	10/18/2019 14:22	10.9		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	04	71-43-2	SW8260D	10/18/2019 14:22	10/18/2019 14:22	1.89		0.40	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW8260D	10/18/2019 14:22	10/18/2019 14:22	8.93		0.40	1.00	1	ug/L	KCS



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Client Sample ID: MW-4

Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	04	75-00-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	0.85	J	0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	04	156-59-2	SW8260D	10/18/2019 14:22	10/18/2019 14:22	2.10		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	04	78-83-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	04	91-20-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	1.00		0.40	1.00	1	ug/L	KCS
Styrene	04	100-42-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.80	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	04	108-05-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW8260D	10/18/2019 14:22	10/18/2019 14:22	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260D	10/18/2019 14:22	10/18/2019 14:22	1.00	J	1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	88.9 %	70-120	10/18/2019 14:22	10/18/2019 14:22							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	99.4 %	75-120	10/18/2019 14:22	10/18/2019 14:22							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	96.3 %	70-130	10/18/2019 14:22	10/18/2019 14:22							
<i>Surr: Toluene-d8 (Surr)</i>	04	98.8 %	70-130	10/18/2019 14:22	10/18/2019 14:22							



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Client Sample ID: MW-4

Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	04	92-67-1	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		2.13	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	04	53-70-3	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		2.13	10.6	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		3.19	10.6	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		4.26	10.6	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270E	10/21/2019 09:25	10/22/2019 13:06	BLOD		3.19	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	04	61.6 %	10-86	10/21/2019 09:25	10/22/2019 13:06							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	04	45.5 %	9-87	10/21/2019 09:25	10/22/2019 13:06							
<i>Surr: 2-Fluorophenol (Surr)</i>	04	20.6 %	10-52	10/21/2019 09:25	10/22/2019 13:06							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	04	53.2 %	10-98.5	10/21/2019 09:25	10/22/2019 13:06							
<i>Surr: Phenol-d5 (Surr)</i>	04	18.4 %	5-33	10/21/2019 09:25	10/22/2019 13:06							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	04	45.7 %	27-133	10/21/2019 09:25	10/22/2019 13:06							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	04	1031-07-8	SW8081B	10/18/2019 13:25	10/22/2019 18:28	BLOD		0.005	0.052	1	ug/L	LBH2
Surr: TCMX	04	55.0 %	18-112	10/18/2019 13:25	10/22/2019 18:28							
Surr: DCB	04	50.0 %	27-131	10/18/2019 13:25	10/22/2019 18:28							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 13:56	BLOD		0.100	0.500	1	ug/L	SKS
Surr: DCAA (Surr)	04	90.0 %	60-112	10/21/2019 14:17	10/25/2019 13:56							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 18:37	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	04	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 18:37	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 18:37	BLOD		0.005	0.010	1	ug/L	LBH2



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Laboratory Sample ID: 19J0840-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	04	18496-25-8	SW9215	10/21/2019 13:16	10/21/2019 13:16	BLOD		0.80	1.00	1	mg/L	TDL



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	05	7440-38-2	SW6020A	10/18/2019 15:00	10/23/2019 16:41	BLOD		0.50	1.0	1	ug/L	RCV
Barium	05	7440-39-3	SW6010C	10/18/2019 15:00	10/22/2019 13:34	0.0185		0.0050	0.0100	1	mg/L	SNL
Beryllium	05	7440-41-7	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	05	7440-43-9	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	05	7440-48-4	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0020	0.0040	1	mg/L	SNL
Chromium	05	7440-47-3	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0040	0.0100	1	mg/L	SNL
Copper	05	7440-50-8	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0030	0.0100	1	mg/L	SNL
Mercury	05	7439-97-6	SW7470A	10/18/2019 09:45	10/21/2019 10:59	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	05	7440-02-0	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0020	0.0100	1	mg/L	SNL
Lead	05	7439-92-1	SW6020A	10/18/2019 15:00	10/23/2019 16:41	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	05	7440-36-0	SW6020A	10/18/2019 15:00	10/23/2019 16:41	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	05	7782-49-2	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	05	7440-31-5	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	05	7440-28-0	SW6020A	10/18/2019 15:00	10/23/2019 16:41	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	05	7440-62-2	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	05	7440-66-6	SW6010C	10/18/2019 15:00	10/22/2019 13:34	BLOD		0.0100	0.0100	1	mg/L	SNL



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	05	79-34-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-00-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	78-83-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	05	91-20-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.80	1.00	1	ug/L	KCS



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	05	108-05-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	05	1330-20-7	SW8260D	10/18/2019 14:44	10/18/2019 14:44	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>05</i>	<i>96.7 %</i>	<i>70-120</i>	<i>10/18/2019 14:44</i>	<i>10/18/2019 14:44</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>05</i>	<i>96.9 %</i>	<i>75-120</i>	<i>10/18/2019 14:44</i>	<i>10/18/2019 14:44</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>05</i>	<i>96.5 %</i>	<i>70-130</i>	<i>10/18/2019 14:44</i>	<i>10/18/2019 14:44</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>05</i>	<i>98.8 %</i>	<i>70-130</i>	<i>10/18/2019 14:44</i>	<i>10/18/2019 14:44</i>							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	05	92-67-1	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		2.15	10.8	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		2.69	2.69	1	ug/L	SKS
Dibenz (a,h) anthracene	05	53-70-3	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		2.15	10.8	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		3.23	10.8	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		4.30	10.8	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270E	10/21/2019 09:25	10/22/2019 13:36	BLOD		3.23	10.8	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	05	56.6 %	10-86	10/21/2019 09:25	10/22/2019 13:36							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	05	35.5 %	9-87	10/21/2019 09:25	10/22/2019 13:36							
<i>Surr: 2-Fluorophenol (Surr)</i>	05	17.0 %	10-52	10/21/2019 09:25	10/22/2019 13:36							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	05	43.8 %	10-98.5	10/21/2019 09:25	10/22/2019 13:36							
<i>Surr: Phenol-d5 (Surr)</i>	05	15.1 %	5-33	10/21/2019 09:25	10/22/2019 13:36							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	05	39.3 %	27-133	10/21/2019 09:25	10/22/2019 13:36							



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	05	1031-07-8	SW8081B	10/18/2019 13:25	10/22/2019 18:47	BLOD		0.005	0.053	1	ug/L	LBH2
Surr: TCMX	05	55.0 %	18-112	10/18/2019 13:25	10/22/2019 18:47							
Surr: DCB	05	45.0 %	27-131	10/18/2019 13:25	10/22/2019 18:47							



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 14:18	BLOD		0.100	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	<i>05</i>	<i>90.0 %</i>	<i>60-112</i>	<i>10/21/2019 14:17</i>	<i>10/25/2019 14:18</i>							



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 18:57	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	05	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 18:57	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 18:57	BLOD		0.005	0.010	1	ug/L	LBH2



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Client Sample ID: MW-20

Laboratory Sample ID: 19J0840-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	05	18496-25-8	SW9215	10/23/2019 13:00	10/23/2019 13:00	BLOD		0.80	1.00	1	mg/L	TDL



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Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	06	7440-22-4	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	06	7440-38-2	SW6020A	10/18/2019 15:00	10/23/2019 16:43	BLOD		0.50	1.0	1	ug/L	RCV
Barium	06	7440-39-3	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0050	0.0100	1	mg/L	SNL
Beryllium	06	7440-41-7	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	06	7440-43-9	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	06	7440-48-4	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0020	0.0040	1	mg/L	SNL
Chromium	06	7440-47-3	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0040	0.0100	1	mg/L	SNL
Copper	06	7440-50-8	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0030	0.0100	1	mg/L	SNL
Mercury	06	7439-97-6	SW7470A	10/18/2019 09:45	10/21/2019 11:01	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	06	7440-02-0	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0020	0.0100	1	mg/L	SNL
Lead	06	7439-92-1	SW6020A	10/18/2019 15:00	10/23/2019 16:43	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	06	7440-36-0	SW6020A	10/18/2019 15:00	10/23/2019 16:43	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	06	7782-49-2	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	06	7440-31-5	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	06	7440-28-0	SW6020A	10/18/2019 15:00	10/23/2019 16:43	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	06	7440-62-2	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	06	7440-66-6	SW6010C	10/18/2019 15:00	10/22/2019 13:37	BLOD		0.0100	0.0100	1	mg/L	SNL



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Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	06	71-55-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	75-34-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	06	96-18-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	95-50-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	107-06-2	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	06	78-93-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	06	591-78-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	06	71-43-2	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	06	75-25-2	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	06	108-90-7	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	06	75-00-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-59-2	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	06	124-48-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	06	74-95-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-8	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	06	74-88-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	06	78-83-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	06	179601-23-1	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	06	91-20-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	06	95-47-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	06	100-42-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	06	127-18-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	06	108-88-3	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	156-60-5	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10061-02-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	06	79-01-6	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	75-69-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.80	1.00	1	ug/L	KCS



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Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	06	108-05-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	06	75-01-4	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	06	1330-20-7	SW8260D	10/18/2019 12:53	10/18/2019 12:53	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	06	93.0 %	70-120	10/18/2019 12:53	10/18/2019 12:53							
Surr: 4-Bromofluorobenzene (Surr)	06	99.4 %	75-120	10/18/2019 12:53	10/18/2019 12:53							
Surr: Dibromofluoromethane (Surr)	06	99.6 %	70-130	10/18/2019 12:53	10/18/2019 12:53							
Surr: Toluene-d8 (Surr)	06	97.4 %	70-130	10/18/2019 12:53	10/18/2019 12:53							



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Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	06	92-67-1	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		2.11	10.5	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		2.63	2.63	1	ug/L	SKS
Dibenz (a,h) anthracene	06	53-70-3	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		2.11	10.5	1	ug/L	SKS
Diethyl phthalate	06	84-66-2	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		3.16	10.5	1	ug/L	SKS
Di-n-butyl phthalate	06	84-74-2	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		4.21	10.5	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	06	193-39-5	SW8270E	10/21/2019 09:25	10/22/2019 14:06	BLOD		3.16	10.5	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	06	43.8 %	10-86	10/21/2019 09:25	10/22/2019 14:06							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	06	40.1 %	9-87	10/21/2019 09:25	10/22/2019 14:06							
<i>Surr: 2-Fluorophenol (Surr)</i>	06	18.2 %	10-52	10/21/2019 09:25	10/22/2019 14:06							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	06	47.9 %	10-98.5	10/21/2019 09:25	10/22/2019 14:06							
<i>Surr: Phenol-d5 (Surr)</i>	06	16.8 %	5-33	10/21/2019 09:25	10/22/2019 14:06							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	06	37.0 %	27-133	10/21/2019 09:25	10/22/2019 14:06							



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Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	06	1031-07-8	SW8081B	10/18/2019 13:25	10/22/2019 19:07	BLOD		0.005	0.053	1	ug/L	LBH2
Surr: TCMX	06	70.0 %	18-112	10/18/2019 13:25	10/22/2019 19:07							
Surr: DCB	06	95.0 %	27-131	10/18/2019 13:25	10/22/2019 19:07							



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Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	06	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 15:01	BLOD		0.100	0.500	1	ug/L	SKS
Surr: DCAA (Surr)	06	85.0 %	60-112	10/21/2019 14:17	10/25/2019 15:01							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 19:16	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	06	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 19:16	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 19:16	BLOD		0.005	0.010	1	ug/L	LBH2



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 19J0840-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	06	18496-25-8	SW9215	10/21/2019 13:16	10/21/2019 13:16	BLOD		0.80	1.00	1	mg/L	TDL



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19J0840-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	07	79-34-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	75-34-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-35-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	07	96-18-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	95-50-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	78-87-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	07	78-93-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	07	591-78-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	07	75-25-2	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19J0840-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	07	156-59-2	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	10061-01-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	07	124-48-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	07	74-95-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	07	74-88-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	07	78-83-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	07	179601-23-1	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	07	91-20-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	07	95-47-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	07	100-42-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-3	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-60-5	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-69-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.80	1.00	1	ug/L	KCS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 19J0840-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	07	108-05-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	07	1330-20-7	SW8260D	10/18/2019 12:31	10/18/2019 12:31	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	07	101 %	70-120	10/18/2019 12:31	10/18/2019 12:31							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	07	98.1 %	75-120	10/18/2019 12:31	10/18/2019 12:31							
<i>Surr: Dibromofluoromethane (Surr)</i>	07	105 %	70-130	10/18/2019 12:31	10/18/2019 12:31							
<i>Surr: Toluene-d8 (Surr)</i>	07	97.3 %	70-130	10/18/2019 12:31	10/18/2019 12:31							



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Laboratory Sample ID: 19J0840-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	10/21/2019 09:45	10/21/2019 19:35	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	07	96-18-4	SW8011	10/21/2019 09:45	10/21/2019 19:35	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	10/21/2019 09:45	10/21/2019 19:35	BLOD		0.005	0.010	1	ug/L	LBH2



Certificate of Analysis

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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	01	7440-22-4	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	01	7440-38-2	SW6020A	10/22/2019 17:00	10/23/2019 16:02	0.53	J	0.50	1.0	1	ug/L	RCV
Barium	01	7440-39-3	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.455		0.0050	0.0100	1	mg/L	SNL
Beryllium	01	7440-41-7	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	01	7440-43-9	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.0038	J	0.0020	0.0040	1	mg/L	SNL
Cobalt	01	7440-48-4	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.108		0.0020	0.0040	1	mg/L	SNL
Chromium	01	7440-47-3	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0040	0.0100	1	mg/L	SNL
Copper	01	7440-50-8	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.0036	J	0.0030	0.0100	1	mg/L	SNL
Mercury	01	7439-97-6	SW7470A	10/23/2019 17:00	10/24/2019 12:49	0.00046		0.00020	0.00020	1	mg/L	MWL
Nickel	01	7440-02-0	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.0105		0.0020	0.0100	1	mg/L	SNL
Lead	01	7439-92-1	SW6020A	10/22/2019 17:00	10/23/2019 16:02	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	01	7440-36-0	SW6020A	10/22/2019 17:00	10/23/2019 16:02	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	01	7782-49-2	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	01	7440-31-5	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	01	7440-28-0	SW6020A	10/22/2019 17:00	10/23/2019 16:02	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	01	7440-62-2	SW6010C	10/22/2019 17:00	10/23/2019 13:26	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	01	7440-66-6	SW6010C	10/22/2019 17:00	10/23/2019 13:26	0.0210		0.0100	0.0100	1	mg/L	SNL



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Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	01	79-34-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260D	10/22/2019 12:34	10/22/2019 12:34	5.66		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		3.00	5.00	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW8260D	10/22/2019 12:34	10/22/2019 12:34	0.80	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260D	10/22/2019 12:34	10/22/2019 12:34	1.91		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	01	75-00-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260D	10/22/2019 12:34	10/22/2019 12:34	3.70		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-95-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	01	91-20-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		0.80	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl acetate	01	108-05-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	10/22/2019 12:34	10/22/2019 12:34	0.52		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	10/22/2019 12:34	10/22/2019 12:34	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	01	98.9 %	70-120	10/22/2019 12:34	10/22/2019 12:34							
Surr: 4-Bromofluorobenzene (Surr)	01	102 %	75-120	10/22/2019 12:34	10/22/2019 12:34							
Surr: Dibromofluoromethane (Surr)	01	93.3 %	70-130	10/22/2019 12:34	10/22/2019 12:34							
Surr: Toluene-d8 (Surr)	01	101 %	70-130	10/22/2019 12:34	10/22/2019 12:34							



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Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
4-Aminobiphenyl	01	92-67-1	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		2.13	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	01	53-70-3	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		2.13	10.6	1	ug/L	SKS
Diethyl phthalate	01	84-66-2	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		3.19	10.6	1	ug/L	SKS
Di-n-butyl phthalate	01	84-74-2	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		4.26	10.6	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270E	10/23/2019 09:15	10/24/2019 16:06	BLOD		3.19	10.6	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	01	85.2 %	10-86	10/23/2019 09:15	10/24/2019 16:06							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	01	59.4 %	9-87	10/23/2019 09:15	10/24/2019 16:06							
<i>Surr: 2-Fluorophenol (Surr)</i>	01	26.2 %	10-52	10/23/2019 09:15	10/24/2019 16:06							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	01	67.8 %	10-98.5	10/23/2019 09:15	10/24/2019 16:06							
<i>Surr: Phenol-d5 (Surr)</i>	01	20.9 %	5-33	10/23/2019 09:15	10/24/2019 16:06							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	01	84.0 %	27-133	10/23/2019 09:15	10/24/2019 16:06							



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Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endosulfan sulfate	01	1031-07-8	SW8081B	10/22/2019 13:30	10/23/2019 23:24	BLOD		0.005	0.054	1	ug/L	LBH2
Surr: TCMX	01	70.0 %	18-112	10/22/2019 13:30	10/23/2019 23:24							
Surr: DCB	01	85.0 %	27-131	10/22/2019 13:30	10/23/2019 23:24							



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Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	01	93-76-5	SW8151A	10/21/2019 14:17	10/25/2019 18:17	BLOD		0.100	0.500	1	ug/L	SKS
Surr: DCAA (Surr)	01	95.0 %	60-112	10/21/2019 14:17	10/25/2019 18:17							



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Client Sample ID: MW-3A

Laboratory Sample ID: 19J0947-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	01	18496-25-8	SW9215	10/23/2019 13:00	10/23/2019 13:00	BLOD		0.80	1.00	1	mg/L	TDL



Certificate of Analysis

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Date Issued: 11/5/2019 3:31:44PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0713 - SW7470A

Blank (BCJ0713-BLK1)				Prepared: 10/18/2019 Analyzed: 10/21/2019						
Mercury	BLOD	0.00020	mg/L							
LCS (BCJ0713-BS1)				Prepared: 10/18/2019 Analyzed: 10/21/2019						
Mercury	0.00265	0.00020	mg/L	0.00250		106	80-120			
LCS Dup (BCJ0713-BSD1)				Prepared: 10/18/2019 Analyzed: 10/21/2019						
Mercury	0.00256	0.00020	mg/L	0.00250		102	80-120	3.41	20	
Matrix Spike (BCJ0713-MS1)				Prepared: 10/18/2019 Analyzed: 10/21/2019						
					Source: 19J0701-01					
Mercury	0.00186	0.00020	mg/L	0.00250	BLOD	74.4	80-120			M
Matrix Spike Dup (BCJ0713-MSD1)				Prepared: 10/18/2019 Analyzed: 10/21/2019						
					Source: 19J0701-01					
Mercury	0.00189	0.00020	mg/L	0.00250	BLOD	75.5	80-120	1.54	20	M

Batch BCJ0751 - EPA200.2/R2.8

Blank (BCJ0751-BLK1)				Prepared: 10/18/2019 Analyzed: 10/22/2019						
Barium	BLOD	0.0100	mg/L							
Beryllium	BLOD	0.0040	mg/L							
Cadmium	BLOD	0.0040	mg/L							
Chromium	BLOD	0.0100	mg/L							
Cobalt	BLOD	0.0040	mg/L							
Copper	BLOD	0.0100	mg/L							
Nickel	BLOD	0.0100	mg/L							
Selenium	BLOD	0.0500	mg/L							
Silver	BLOD	0.0100	mg/L							
Tin	BLOD	0.0200	mg/L							
Vanadium	BLOD	0.0100	mg/L							



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0751 - EPA200.2/R2.8										
Blank (BCJ0751-BLK1)										
				Prepared: 10/18/2019 Analyzed: 10/22/2019						
Zinc	BLOD	0.0100	mg/L							
LCS (BCJ0751-BS1)										
				Prepared: 10/18/2019 Analyzed: 10/22/2019						
Barium	0.516	0.0100	mg/L	0.500		103	80-120			
Beryllium	0.513	0.0040	mg/L	0.500		103	80-120			
Cadmium	0.518	0.0040	mg/L	0.500		104	80-120			
Chromium	0.506	0.0100	mg/L	0.500		101	80-120			
Cobalt	0.519	0.0040	mg/L	0.500		104	80-120			
Copper	0.514	0.0100	mg/L	0.500		103	80-120			
Nickel	0.5168	0.0100	mg/L	0.500		103	80-120			
Selenium	0.522	0.0500	mg/L	0.500		104	80-120			
Silver	0.0999	0.0100	mg/L	0.100		99.9	80-120			
Tin	0.0977	0.0200	mg/L	0.100		97.7	80-120			
Vanadium	0.499	0.0100	mg/L	0.500		99.7	80-120			
Zinc	0.514	0.0100	mg/L	0.500		103	80-120			
LCS Dup (BCJ0751-BSD1)										
				Prepared: 10/18/2019 Analyzed: 10/22/2019						
Barium	0.512	0.0100	mg/L	0.500		102	80-120	0.754	20	
Beryllium	0.502	0.0040	mg/L	0.500		100	80-120	2.03	20	
Cadmium	0.508	0.0040	mg/L	0.500		102	80-120	1.97	20	
Chromium	0.503	0.0100	mg/L	0.500		101	80-120	0.506	20	
Cobalt	0.511	0.0040	mg/L	0.500		102	80-120	1.48	20	
Copper	0.512	0.0100	mg/L	0.500		102	80-120	0.398	20	
Nickel	0.5110	0.0100	mg/L	0.500		102	80-120	1.13	20	
Selenium	0.496	0.0500	mg/L	0.500		99.1	80-120	5.26	20	
Silver	0.100	0.0100	mg/L	0.100		100	80-120	0.159	20	E



Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0751 - EPA200.2/R2.8

LCS Dup (BCJ0751-BSD1)

Prepared: 10/18/2019 Analyzed: 10/22/2019

Tin	0.0976	0.0200	mg/L	0.100		97.6	80-120	0.148	20	
Vanadium	0.499	0.0100	mg/L	0.500		99.8	80-120	0.0789	20	
Zinc	0.503	0.0100	mg/L	0.500		101	80-120	2.07	20	

Matrix Spike (BCJ0751-MS1)

Source: 19J0840-01

Prepared: 10/18/2019 Analyzed: 10/22/2019

Barium	0.682	0.0100	mg/L	0.500	0.182	100	75-125			
Beryllium	0.512	0.0040	mg/L	0.500	BLOD	102	75-125			
Cadmium	0.508	0.0040	mg/L	0.500	0.0111	99.3	75-125			
Chromium	0.501	0.0100	mg/L	0.500	BLOD	100	75-125			
Cobalt	0.527	0.0040	mg/L	0.500	0.0305	99.2	75-125			
Copper	0.522	0.0100	mg/L	0.500	0.0105	102	75-125			
Nickel	0.4977	0.0100	mg/L	0.500	0.0094	97.7	75-125			
Selenium	0.506	0.0500	mg/L	0.500	BLOD	101	75-125			
Silver	0.0955	0.0100	mg/L	0.100	BLOD	95.5	75-125			
Tin	0.0915	0.0200	mg/L	0.100	BLOD	91.5	75-125			
Vanadium	0.504	0.0100	mg/L	0.500	BLOD	101	75-125			
Zinc	0.523	0.0100	mg/L	0.500	0.0287	98.8	75-125			

Matrix Spike (BCJ0751-MS2)

Source: 19J0840-06

Prepared: 10/18/2019 Analyzed: 10/22/2019

Barium	0.523	0.0100	mg/L	0.500	BLOD	105	75-125			
Beryllium	0.510	0.0040	mg/L	0.500	BLOD	102	75-125			
Cadmium	0.520	0.0040	mg/L	0.500	BLOD	104	75-125			
Chromium	0.515	0.0100	mg/L	0.500	BLOD	103	75-125			
Cobalt	0.528	0.0040	mg/L	0.500	BLOD	106	75-125			
Copper	0.514	0.0100	mg/L	0.500	BLOD	103	75-125			
Nickel	0.5223	0.0100	mg/L	0.500	BLOD	104	75-125			



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0751 - EPA200.2/R2.8

Matrix Spike (BCJ0751-MS2)		Source: 19J0840-06		Prepared: 10/18/2019		Analyzed: 10/22/2019				
Selenium	0.529	0.0500	mg/L	0.500	BLOD	106	75-125			
Silver	0.101	0.0100	mg/L	0.100	BLOD	101	75-125			E
Tin	0.0982	0.0200	mg/L	0.100	BLOD	98.2	75-125			
Vanadium	0.508	0.0100	mg/L	0.500	BLOD	102	75-125			
Zinc	0.516	0.0100	mg/L	0.500	BLOD	103	75-125			

Matrix Spike Dup (BCJ0751-MSD1)		Source: 19J0840-01		Prepared: 10/18/2019		Analyzed: 10/22/2019				
Barium	0.688	0.0100	mg/L	0.500	0.182	101	75-125	0.919	20	
Beryllium	0.527	0.0040	mg/L	0.500	BLOD	105	75-125	2.83	20	
Cadmium	0.518	0.0040	mg/L	0.500	0.0111	101	75-125	1.93	20	
Chromium	0.515	0.0100	mg/L	0.500	BLOD	103	75-125	2.73	20	
Cobalt	0.534	0.0040	mg/L	0.500	0.0305	101	75-125	1.47	20	
Copper	0.534	0.0100	mg/L	0.500	0.0105	105	75-125	2.34	20	
Nickel	0.5049	0.0100	mg/L	0.500	0.0094	99.1	75-125	1.42	20	
Selenium	0.510	0.0500	mg/L	0.500	BLOD	102	75-125	0.847	20	
Silver	0.0995	0.0100	mg/L	0.100	BLOD	99.5	75-125	4.10	20	
Tin	0.0951	0.0200	mg/L	0.100	BLOD	95.1	75-125	3.85	20	
Vanadium	0.517	0.0100	mg/L	0.500	BLOD	103	75-125	2.51	20	
Zinc	0.532	0.0100	mg/L	0.500	0.0287	101	75-125	1.77	20	

Matrix Spike Dup (BCJ0751-MSD2)		Source: 19J0840-06		Prepared: 10/18/2019		Analyzed: 10/22/2019				
Barium	0.523	0.0100	mg/L	0.500	BLOD	105	75-125	0.0810	20	
Beryllium	0.515	0.0040	mg/L	0.500	BLOD	103	75-125	1.12	20	
Cadmium	0.520	0.0040	mg/L	0.500	BLOD	104	75-125	0.146	20	
Chromium	0.518	0.0100	mg/L	0.500	BLOD	104	75-125	0.584	20	
Cobalt	0.528	0.0040	mg/L	0.500	BLOD	106	75-125	0.0331	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0751 - EPA200.2/R2.8

Matrix Spike Dup (BCJ0751-MSD2)		Source: 19J0840-06			Prepared: 10/18/2019 Analyzed: 10/22/2019					
Copper	0.519	0.0100	mg/L	0.500	BLOD	104	75-125	1.10	20	
Nickel	0.5207	0.0100	mg/L	0.500	BLOD	104	75-125	0.305	20	
Selenium	0.518	0.0500	mg/L	0.500	BLOD	104	75-125	2.26	20	
Silver	0.102	0.0100	mg/L	0.100	BLOD	102	75-125	0.281	20	E
Tin	0.0968	0.0200	mg/L	0.100	BLOD	96.8	75-125	1.53	20	
Vanadium	0.509	0.0100	mg/L	0.500	BLOD	102	75-125	0.311	20	
Zinc	0.518	0.0100	mg/L	0.500	BLOD	104	75-125	0.407	20	

Batch BCJ0753 - EPA200.8 R5.4

Blank (BCJ0753-BLK1)					Prepared: 10/18/2019 Analyzed: 10/23/2019					
Antimony	BLOD	1.00	ug/L							
Arsenic	BLOD	1.0	ug/L							
Lead	BLOD	1.00	ug/L							
Thallium	BLOD	1.00	ug/L							

LCS (BCJ0753-BS1)					Prepared: 10/18/2019 Analyzed: 10/23/2019					
Antimony	49.2	1.00	ug/L	50.0		98.3	80-120			
Arsenic	47	1.0	ug/L	50.0		93.9	80-120			
Lead	47.7	1.00	ug/L	50.0		95.4	80-120			
Thallium	48.8	1.00	ug/L	50.0		97.6	80-120			

LCS Dup (BCJ0753-BSD1)					Prepared: 10/18/2019 Analyzed: 10/23/2019					
Antimony	49.2	1.00	ug/L	50.0		98.5	80-120	0.184	20	
Arsenic	47	1.0	ug/L	50.0		94.6	80-120	0.723	20	
Lead	47.8	1.00	ug/L	50.0		95.6	80-120	0.254	20	
Thallium	49.3	1.00	ug/L	50.0		98.5	80-120	0.966	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0753 - EPA200.8 R5.4

Matrix Spike (BCJ0753-MS1)		Source: 19J0840-01			Prepared: 10/18/2019 Analyzed: 10/23/2019					
Antimony	46.9	1.00	ug/L	50.0	BLOD	93.9	75-125			
Arsenic	46	1.0	ug/L	50.0	BLOD	92.1	75-125			
Lead	50.1	1.00	ug/L	50.0	1.77	96.6	75-125			
Thallium	50.0	1.00	ug/L	50.0	BLOD	99.9	75-125			

Matrix Spike Dup (BCJ0753-MSD1)		Source: 19J0840-01			Prepared: 10/18/2019 Analyzed: 10/23/2019					
Antimony	46.3	1.00	ug/L	50.0	BLOD	92.6	75-125	1.40	20	
Arsenic	47	1.0	ug/L	50.0	BLOD	93.0	75-125	1.05	20	
Lead	50.0	1.00	ug/L	50.0	1.77	96.4	75-125	0.217	20	
Thallium	49.3	1.00	ug/L	50.0	BLOD	98.7	75-125	1.25	20	

Batch BCJ0860 - EPA200.2/R2.8

Blank (BCJ0860-BLK1)		Prepared: 10/22/2019 Analyzed: 10/23/2019								
Barium	BLOD	0.0100	mg/L							
Beryllium	BLOD	0.0040	mg/L							
Cadmium	BLOD	0.0040	mg/L							
Chromium	BLOD	0.0100	mg/L							
Cobalt	BLOD	0.0040	mg/L							
Copper	BLOD	0.0100	mg/L							
Nickel	BLOD	0.0100	mg/L							
Selenium	BLOD	0.0500	mg/L							
Silver	BLOD	0.0100	mg/L							
Tin	BLOD	0.0200	mg/L							
Vanadium	BLOD	0.0100	mg/L							
Zinc	BLOD	0.0100	mg/L							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0860 - EPA200.2/R2.8

LCS (BCJ0860-BS1)

Prepared: 10/22/2019 Analyzed: 10/23/2019

Barium	0.489	0.0100	mg/L	0.500		97.9	80-120			
Beryllium	0.489	0.0040	mg/L	0.500		97.8	80-120			
Cadmium	0.498	0.0040	mg/L	0.500		99.5	80-120			
Chromium	0.469	0.0100	mg/L	0.500		93.7	80-120			
Cobalt	0.482	0.0040	mg/L	0.500		96.4	80-120			
Copper	0.493	0.0100	mg/L	0.500		98.6	80-120			
Nickel	0.4934	0.0100	mg/L	0.500		98.7	80-120			
Selenium	0.488	0.0500	mg/L	0.500		97.7	80-120			
Silver	0.0969	0.0100	mg/L	0.100		96.9	80-120			
Tin	0.0979	0.0200	mg/L	0.100		97.9	80-120			
Vanadium	0.472	0.0100	mg/L	0.500		94.4	80-120			
Zinc	0.485	0.0100	mg/L	0.500		97.0	80-120			

LCS Dup (BCJ0860-BSD1)

Prepared: 10/22/2019 Analyzed: 10/23/2019

Barium	0.488	0.0100	mg/L	0.500		97.6	80-120	0.329	20	
Beryllium	0.483	0.0040	mg/L	0.500		96.6	80-120	1.24	20	
Cadmium	0.496	0.0040	mg/L	0.500		99.1	80-120	0.396	20	
Chromium	0.463	0.0100	mg/L	0.500		92.6	80-120	1.18	20	
Cobalt	0.481	0.0040	mg/L	0.500		96.3	80-120	0.156	20	
Copper	0.490	0.0100	mg/L	0.500		98.0	80-120	0.608	20	
Nickel	0.4916	0.0100	mg/L	0.500		98.3	80-120	0.363	20	
Selenium	0.486	0.0500	mg/L	0.500		97.2	80-120	0.527	20	
Silver	0.0959	0.0100	mg/L	0.100		95.9	80-120	1.08	20	
Tin	0.0940	0.0200	mg/L	0.100		94.0	80-120	4.07	20	
Vanadium	0.469	0.0100	mg/L	0.500		93.8	80-120	0.610	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0860 - EPA200.2/R2.8

LCS Dup (BCJ0860-BSD1)

Prepared: 10/22/2019 Analyzed: 10/23/2019

Zinc	0.483	0.0100	mg/L	0.500		96.6	80-120	0.431	20	
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Matrix Spike (BCJ0860-MS1)

Source: 19J0945-03

Prepared: 10/22/2019 Analyzed: 10/23/2019

Barium	0.529	0.0100	mg/L	0.500	0.0404	97.7	75-125			
Beryllium	0.495	0.0040	mg/L	0.500	BLOD	99.0	75-125			
Cadmium	0.497	0.0040	mg/L	0.500	BLOD	99.4	75-125			
Chromium	0.473	0.0100	mg/L	0.500	BLOD	94.5	75-125			
Cobalt	0.486	0.0040	mg/L	0.500	0.0043	96.3	75-125			
Copper	0.506	0.0100	mg/L	0.500	BLOD	101	75-125			
Nickel	0.4934	0.0100	mg/L	0.500	0.0025	98.2	75-125			
Selenium	0.488	0.0500	mg/L	0.500	BLOD	97.7	75-125			
Silver	0.0977	0.0100	mg/L	0.100	BLOD	97.7	75-125			
Tin	0.100	0.0200	mg/L	0.100	BLOD	100	75-125			
Vanadium	0.484	0.0100	mg/L	0.500	BLOD	96.8	75-125			
Zinc	0.489	0.0100	mg/L	0.500	BLOD	97.8	75-125			

Matrix Spike (BCJ0860-MS2)

Source: 19J0945-15

Prepared: 10/22/2019 Analyzed: 10/23/2019

Barium	0.512	0.0100	mg/L	0.500	0.0181	98.8	75-125			
Beryllium	0.494	0.0040	mg/L	0.500	BLOD	98.8	75-125			
Cadmium	0.505	0.0040	mg/L	0.500	BLOD	101	75-125			
Chromium	0.480	0.0100	mg/L	0.500	BLOD	96.0	75-125			
Cobalt	0.491	0.0040	mg/L	0.500	BLOD	98.2	75-125			
Copper	0.504	0.0100	mg/L	0.500	BLOD	101	75-125			
Nickel	0.5041	0.0100	mg/L	0.500	0.0026	100	75-125			
Selenium	0.490	0.0500	mg/L	0.500	BLOD	98.0	75-125			
Silver	0.0970	0.0100	mg/L	0.100	BLOD	97.0	75-125			



Certificate of Analysis

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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0860 - EPA200.2/R2.8										
Matrix Spike (BCJ0860-MS2)		Source: 19J0945-15			Prepared: 10/22/2019		Analyzed: 10/23/2019			
Tin	0.0975	0.0200	mg/L	0.100	BLOD	97.5	75-125			
Vanadium	0.484	0.0100	mg/L	0.500	BLOD	96.8	75-125			
Zinc	0.497	0.0100	mg/L	0.500	BLOD	99.3	75-125			
Matrix Spike Dup (BCJ0860-MSD1)		Source: 19J0945-03			Prepared: 10/22/2019		Analyzed: 10/23/2019			
Barium	0.528	0.0100	mg/L	0.500	0.0404	97.6	75-125	0.0605	20	
Beryllium	0.498	0.0040	mg/L	0.500	BLOD	99.6	75-125	0.592	20	
Cadmium	0.497	0.0040	mg/L	0.500	BLOD	99.3	75-125	0.0578	20	
Chromium	0.475	0.0100	mg/L	0.500	BLOD	95.0	75-125	0.527	20	
Cobalt	0.486	0.0040	mg/L	0.500	0.0043	96.3	75-125	0.0294	20	
Copper	0.511	0.0100	mg/L	0.500	BLOD	102	75-125	0.989	20	
Nickel	0.4952	0.0100	mg/L	0.500	0.0025	98.5	75-125	0.367	20	
Selenium	0.484	0.0500	mg/L	0.500	BLOD	96.7	75-125	0.968	20	
Silver	0.0983	0.0100	mg/L	0.100	BLOD	98.3	75-125	0.585	20	
Tin	0.0957	0.0200	mg/L	0.100	BLOD	95.7	75-125	4.50	20	
Vanadium	0.485	0.0100	mg/L	0.500	BLOD	97.0	75-125	0.181	20	
Zinc	0.489	0.0100	mg/L	0.500	BLOD	97.8	75-125	0.0513	20	
Matrix Spike Dup (BCJ0860-MSD2)		Source: 19J0945-15			Prepared: 10/22/2019		Analyzed: 10/23/2019			
Barium	0.506	0.0100	mg/L	0.500	0.0181	97.6	75-125	1.18	20	
Beryllium	0.488	0.0040	mg/L	0.500	BLOD	97.6	75-125	1.22	20	
Cadmium	0.498	0.0040	mg/L	0.500	BLOD	99.6	75-125	1.42	20	
Chromium	0.473	0.0100	mg/L	0.500	BLOD	94.5	75-125	1.53	20	
Cobalt	0.486	0.0040	mg/L	0.500	BLOD	97.2	75-125	1.04	20	
Copper	0.497	0.0100	mg/L	0.500	BLOD	99.4	75-125	1.43	20	
Nickel	0.4964	0.0100	mg/L	0.500	0.0026	98.8	75-125	1.55	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0860 - EPA200.2/R2.8										
Matrix Spike Dup (BCJ0860-MSD2) Source: 19J0945-15 Prepared: 10/22/2019 Analyzed: 10/23/2019										
Selenium	0.491	0.0500	mg/L	0.500	BLOD	98.2	75-125	0.241	20	
Silver	0.0969	0.0100	mg/L	0.100	BLOD	96.9	75-125	0.126	20	
Tin	0.0987	0.0200	mg/L	0.100	BLOD	98.7	75-125	1.28	20	
Vanadium	0.477	0.0100	mg/L	0.500	BLOD	95.5	75-125	1.42	20	
Zinc	0.488	0.0100	mg/L	0.500	BLOD	97.6	75-125	1.79	20	
Batch BCJ0861 - EPA200.8 R5.4										
Blank (BCJ0861-BLK1) Prepared: 10/22/2019 Analyzed: 10/23/2019										
Antimony	BLOD	1.00	ug/L							
Arsenic	BLOD	1.0	ug/L							
Lead	BLOD	1.00	ug/L							
Thallium	BLOD	1.00	ug/L							
LCS (BCJ0861-BS1) Prepared: 10/22/2019 Analyzed: 10/23/2019										
Antimony	48.6	1.00	ug/L	50.0		97.1	80-120			
Arsenic	47	1.0	ug/L	50.0		94.4	80-120			
Lead	48.3	1.00	ug/L	50.0		96.6	80-120			
Thallium	49.4	1.00	ug/L	50.0		98.8	80-120			
LCS Dup (BCJ0861-BSD1) Prepared: 10/22/2019 Analyzed: 10/23/2019										
Antimony	50.0	1.00	ug/L	50.0		99.9	80-120	2.82	20	
Arsenic	47	1.0	ug/L	50.0		95.0	80-120	0.645	20	
Lead	48.4	1.00	ug/L	50.0		96.8	80-120	0.211	20	
Thallium	49.6	1.00	ug/L	50.0		99.3	80-120	0.508	20	
Matrix Spike (BCJ0861-MS1) Source: 19J0945-15 Prepared: 10/22/2019 Analyzed: 10/23/2019										
Antimony	53.3	1.00	ug/L	50.0	BLOD	107	75-125			



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0861 - EPA200.8 R5.4										
Matrix Spike (BCJ0861-MS1)		Source: 19J0945-15			Prepared: 10/22/2019 Analyzed: 10/23/2019					
Arsenic	48	1.0	ug/L	50.0	BLOD	96.3	75-125			
Lead	49.9	1.00	ug/L	50.0	BLOD	99.8	75-125			
Thallium	50.2	1.00	ug/L	50.0	BLOD	100	75-125			
Matrix Spike Dup (BCJ0861-MSD1)		Source: 19J0945-15			Prepared: 10/22/2019 Analyzed: 10/23/2019					
Antimony	52.1	1.00	ug/L	50.0	BLOD	104	75-125	2.32	20	
Arsenic	47	1.0	ug/L	50.0	BLOD	94.7	75-125	1.65	20	
Lead	49.1	1.00	ug/L	50.0	BLOD	98.2	75-125	1.55	20	
Thallium	49.7	1.00	ug/L	50.0	BLOD	99.5	75-125	0.894	20	
Batch BCJ0916 - SW7470A										
Blank (BCJ0916-BLK1)		Prepared: 10/23/2019 Analyzed: 10/24/2019								
Mercury	BLOD	0.00020	mg/L							
LCS (BCJ0916-BS1)		Prepared: 10/23/2019 Analyzed: 10/24/2019								
Mercury	0.00258	0.00020	mg/L	0.00250		103	80-120			
LCS Dup (BCJ0916-BSD1)		Prepared: 10/23/2019 Analyzed: 10/24/2019								
Mercury	0.00259	0.00020	mg/L	0.00250		104	80-120	0.447	20	
Matrix Spike (BCJ0916-MS1)		Source: 19J0881-11			Prepared: 10/23/2019 Analyzed: 10/24/2019					
Mercury	0.00266	0.00020	mg/L	0.00250	BLOD	106	80-120			
Matrix Spike (BCJ0916-MS2)		Source: 19J0881-15			Prepared: 10/23/2019 Analyzed: 10/24/2019					
Mercury	0.00266	0.00020	mg/L	0.00250	BLOD	106	80-120			



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0916 - SW7470A

Matrix Spike Dup (BCJ0916-MSD1)		Source: 19J0881-11		Prepared: 10/23/2019 Analyzed: 10/24/2019						
Mercury	0.00312	0.00020	mg/L	0.00250	BLOD	125	80-120	16.0	20	M
Matrix Spike Dup (BCJ0916-MSD2)		Source: 19J0881-15		Prepared: 10/23/2019 Analyzed: 10/24/2019						
Mercury	0.00262	0.00020	mg/L	0.00250	BLOD	105	80-120	1.48	20	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Blank (BCJ0722-BLK1)

Prepared & Analyzed: 10/18/2019

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,1-Trichloroethane	BLOD	1.00	ug/L							
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L							
1,1,2-Trichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethane	BLOD	1.00	ug/L							
1,1-Dichloroethylene	BLOD	1.00	ug/L							
1,2,3-Trichloropropane	BLOD	1.00	ug/L							
1,2-Dichlorobenzene	BLOD	1.00	ug/L							
1,2-Dichloroethane	BLOD	1.00	ug/L							
1,2-Dichloropropane	BLOD	1.00	ug/L							
1,4-Dichlorobenzene	BLOD	1.00	ug/L							
2-Butanone (MEK)	BLOD	5.00	ug/L							
2-Hexanone (MBK)	BLOD	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L							
Acetone	BLOD	10.0	ug/L							
Acrylonitrile	BLOD	5.00	ug/L							
Benzene	BLOD	1.00	ug/L							
Bromochloromethane	BLOD	1.00	ug/L							
Bromodichloromethane	BLOD	0.50	ug/L							
Bromoform	BLOD	1.00	ug/L							
Bromomethane	BLOD	1.00	ug/L							
Carbon disulfide	BLOD	10.0	ug/L							
Carbon tetrachloride	BLOD	1.00	ug/L							
Chlorobenzene	BLOD	1.00	ug/L							
Chloroethane	BLOD	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Blank (BCJ0722-BLK1)

Prepared & Analyzed: 10/18/2019

Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Iodomethane	BLOD	10.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
o-Xylene	BLOD	1.00	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	48.7	ug/L	50.0	97.4	70-120
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.9	ug/L	50.0	99.9	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	49.4	ug/L	50.0	98.9	70-130



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Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Blank (BCJ0722-BLK1)

Prepared & Analyzed: 10/18/2019

<i>Surr: Toluene-d8 (Surr)</i>	48.2		ug/L	50.0		96.5	70-130		
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LCS (BCJ0722-BS1)

Prepared & Analyzed: 10/18/2019

1,1,1,2-Tetrachloroethane	43.7	0.4	ug/L	50.0		87.4	80-130		
1,1,1-Trichloroethane	45.9	1	ug/L	50.0		91.8	65-130		
1,1,2,2-Tetrachloroethane	42.1	0.4	ug/L	50.0		84.2	65-130		
1,1,2-Trichloroethane	44.8	1	ug/L	50.0		89.5	75-125		
1,1-Dichloroethane	44.2	1	ug/L	50.0		88.3	70-135		
1,1-Dichloroethylene	45.7	1	ug/L	50.0		91.5	70-130		
1,2,3-Trichloropropane	39.6	1	ug/L	50.0		79.1	75-125		
1,2-Dichlorobenzene	43.7	1	ug/L	50.0		87.4	70-120		
1,2-Dichloroethane	40.7	1	ug/L	50.0		81.5	70-130		
1,2-Dichloropropane	40.7	1	ug/L	50.0		81.5	75-125		
1,4-Dichlorobenzene	41.7	1	ug/L	50.0		83.5	75-125		
2-Butanone (MEK)	43.2	5	ug/L	50.0		86.4	30-150		
2-Hexanone (MBK)	38.5	5	ug/L	50.0		77.0	55-130		
4-Methyl-2-pentanone (MIBK)	41.6	5	ug/L	50.0		83.2	60-135		
Acetone	49.6	10	ug/L	50.0		99.1	40-140		
Acrylonitrile	326	5	ug/L	250		130	70-130		L
Benzene	43.7	1	ug/L	50.0		87.3	80-120		
Bromochloromethane	45.7	1	ug/L	50.0		91.4	65-130		
Bromodichloromethane	44.2	0.5	ug/L	50.0		88.5	75-120		
Bromoform	43.4	1	ug/L	50.0		86.8	70-130		
Bromomethane	33.9	1	ug/L	50.0		67.8	30-145		
Carbon disulfide	41.2	10	ug/L	50.0		82.3	35-160		



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

LCS (BCJ0722-BS1)

Prepared & Analyzed: 10/18/2019

Carbon tetrachloride	46.4	1	ug/L	50.0		92.7	65-140			
Chlorobenzene	45.2	1	ug/L	50.0		90.3	80-120			
Chloroethane	40.2	1	ug/L	50.0		80.4	60-135			
Chloroform	43.5	0.5	ug/L	50.0		87.1	65-135			
Chloromethane	40.7	1	ug/L	50.0		81.4	40-125			
cis-1,2-Dichloroethylene	44.0	1	ug/L	50.0		88.0	70-125			
cis-1,3-Dichloropropene	43.4	1	ug/L	50.0		86.7	70-130			
Dibromochloromethane	47.3	0.5	ug/L	50.0		94.6	60-135			
Dibromomethane	44.1	1	ug/L	50.0		88.1	75-125			
Ethylbenzene	42.6	1	ug/L	50.0		85.2	75-125			
m+p-Xylenes	87.8	2	ug/L	100		87.8	75-130			
Methylene chloride	44.8	4	ug/L	50.0		89.6	55-140			
o-Xylene	44.0	1	ug/L	50.0		88.1	80-120			
Styrene	43.1	1	ug/L	50.0		86.3	65-135			
Tetrachloroethylene (PCE)	70.9	1	ug/L	50.0		142	45-150			
Toluene	44.1	1	ug/L	50.0		88.2	75-120			
trans-1,2-Dichloroethylene	45.2	1	ug/L	50.0		90.5	60-140			
trans-1,3-Dichloropropene	40.5	1	ug/L	50.0		80.9	55-140			
Trichloroethylene	45.9	1	ug/L	50.0		91.9	70-125			
Trichlorofluoromethane	41.7	1	ug/L	50.0		83.5	60-145			
Vinyl chloride	46.7	0.5	ug/L	50.0		93.3	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>47.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>94.8</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>49.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.5</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>48.5</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.1</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>48.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>96.2</i>	<i>70-130</i>			



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Duplicate (BCJ0722-DUP1)	Source: 19J0840-02			Prepared & Analyzed: 10/18/2019						
1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	3.25	1.00	ug/L		3.13			3.76	30	
1,1-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	1.67	1.00	ug/L		1.38			19.0	30	
1,2-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	17.7	1.00	ug/L		15.7			12.4	30	
2-Butanone (MEK)	BLOD	5.00	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	BLOD	5.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L		BLOD			NA	30	
Acetone	10.4	10.0	ug/L		9.41			NA	30	
Acrylonitrile	BLOD	5.00	ug/L		BLOD			NA	30	
Benzene	1.90	1.00	ug/L		1.87			1.59	30	
Bromochloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	BLOD	0.50	ug/L		BLOD			NA	30	
Bromoform	BLOD	1.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	15.6	1.00	ug/L		14.7			6.26	30	
Chloroethane	BLOD	1.00	ug/L		0.81			NA	30	



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Duplicate (BCJ0722-DUP1)

Source: 19J0840-02

Prepared & Analyzed: 10/18/2019

Chloroform	BLOD	0.50	ug/L		BLOD			NA	30	
Chloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	4.69	1.00	ug/L		4.49			4.36	30	
cis-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	0.50	ug/L		BLOD			NA	30	
Dibromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Iodomethane	BLOD	10.0	ug/L		BLOD			NA	30	
m+p-Xylenes	BLOD	2.00	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	4.00	ug/L		BLOD			NA	30	
o-Xylene	BLOD	1.00	ug/L		BLOD			NA	30	
Styrene	BLOD	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L		BLOD			NA	30	
Toluene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L		BLOD			NA	30	
Trichloroethylene	1.23	1.00	ug/L		1.15			6.72	30	
Trichlorofluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	BLOD	3.00	ug/L		BLOD			NA	30	

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.6	ug/L	50.0	93.2	70-120
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.6	ug/L	50.0	97.1	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	49.3	ug/L	50.0	98.6	70-130



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Duplicate (BCJ0722-DUP1)		Source: 19J0840-02		Prepared & Analyzed: 10/18/2019						
<i>Surr: Toluene-d8 (Surr)</i>		48.2	ug/L	50.0		96.4	70-130			
Matrix Spike (BCJ0722-MS1)		Source: 19J0840-02		Prepared & Analyzed: 10/18/2019						
1,1,1,2-Tetrachloroethane	46.0	0.4	ug/L	50.0	BLOD	92.1	80-130			
1,1,1-Trichloroethane	45.3	1	ug/L	50.0	BLOD	90.5	65-130			
1,1,2,2-Tetrachloroethane	46.1	0.4	ug/L	50.0	BLOD	92.1	65-130			
1,1,2-Trichloroethane	45.9	1	ug/L	50.0	BLOD	91.8	75-125			
1,1-Dichloroethane	47.0	1	ug/L	50.0	3.13	87.8	70-135			
1,1-Dichloroethylene	45.1	1	ug/L	50.0	BLOD	90.3	70-130			
1,2,3-Trichloropropane	42.8	1	ug/L	50.0	BLOD	85.6	75-125			
1,2-Dichlorobenzene	46.9	1	ug/L	50.0	1.38	91.0	70-120			
1,2-Dichloroethane	41.4	1	ug/L	50.0	BLOD	82.9	70-130			
1,2-Dichloropropane	43.2	1	ug/L	50.0	BLOD	86.4	75-125			
1,4-Dichlorobenzene	59.9	1	ug/L	50.0	15.7	88.5	75-125			
2-Butanone (MEK)	44.6	5	ug/L	50.0	BLOD	89.3	30-150			
2-Hexanone (MBK)	45.0	5	ug/L	50.0	BLOD	90.0	55-130			
4-Methyl-2-pentanone (MIBK)	46.1	5	ug/L	50.0	BLOD	92.2	60-135			
Acetone	60.4	10	ug/L	50.0	9.41	102	40-140			
Acrylonitrile	311	5	ug/L	250	BLOD	124	70-130			
Benzene	47.3	1	ug/L	50.0	1.87	90.8	80-120			
Bromochloromethane	48.4	1	ug/L	50.0	BLOD	96.9	65-130			
Bromodichloromethane	44.7	0.5	ug/L	50.0	BLOD	89.3	75-120			
Bromoform	44.0	1	ug/L	50.0	BLOD	88.1	70-130			
Bromomethane	26.0	1	ug/L	50.0	BLOD	52.0	30-145			
Carbon disulfide	29.2	10	ug/L	50.0	BLOD	58.2	35-160			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0722 - SW5030B

Matrix Spike (BCJ0722-MS1)	Source: 19J0840-02			Prepared & Analyzed: 10/18/2019						
Carbon tetrachloride	47.4	1	ug/L	50.0	BLOD	94.8	65-140			
Chlorobenzene	63.2	1	ug/L	50.0	14.7	97.0	80-120			
Chloroethane	40.4	1	ug/L	50.0	0.81	79.1	60-135			
Chloroform	43.4	0.5	ug/L	50.0	BLOD	86.8	65-135			
Chloromethane	38.3	1	ug/L	50.0	BLOD	76.7	40-125			
cis-1,2-Dichloroethylene	47.6	1	ug/L	50.0	4.49	86.3	70-125			
cis-1,3-Dichloropropene	42.9	1	ug/L	50.0	BLOD	85.7	70-130			
Dibromochloromethane	47.8	0.5	ug/L	50.0	BLOD	95.6	60-135			
Dibromomethane	46.8	1	ug/L	50.0	BLOD	93.5	75-125			
Ethylbenzene	45.2	1	ug/L	50.0	BLOD	90.4	75-125			
m+p-Xylenes	91.7	2	ug/L	100	BLOD	91.6	75-130			
Methylene chloride	45.2	4	ug/L	50.0	BLOD	90.4	55-140			
o-Xylene	45.8	1	ug/L	50.0	BLOD	91.6	80-120			
Styrene	45.3	1	ug/L	50.0	BLOD	90.6	65-135			
Tetrachloroethylene (PCE)	72.8	1	ug/L	50.0	BLOD	145	45-150			
Toluene	45.3	1	ug/L	50.0	BLOD	90.7	75-120			
trans-1,2-Dichloroethylene	45.5	1	ug/L	50.0	BLOD	91.1	60-140			
trans-1,3-Dichloropropene	39.0	1	ug/L	50.0	BLOD	78.1	55-140			
Trichloroethylene	48.3	1	ug/L	50.0	1.15	94.3	70-125			
Trichlorofluoromethane	39.5	1	ug/L	50.0	BLOD	79.0	60-145			
Vinyl chloride	41.6	0.5	ug/L	50.0	BLOD	82.3	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>43.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>87.6</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>49.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.3</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>47.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>94.5</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>48.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.4</i>	<i>70-130</i>			



Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Blank (BCJ0871-BLK1)

Prepared & Analyzed: 10/22/2019

1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,1-Trichloroethane	BLOD	1.00	ug/L
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L
1,1,2-Trichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethane	BLOD	1.00	ug/L
1,1-Dichloroethylene	BLOD	1.00	ug/L
1,2,3-Trichloropropane	BLOD	1.00	ug/L
1,2-Dichlorobenzene	BLOD	1.00	ug/L
1,2-Dichloroethane	BLOD	1.00	ug/L
1,2-Dichloropropane	BLOD	1.00	ug/L
1,4-Dichlorobenzene	BLOD	1.00	ug/L
2-Butanone (MEK)	BLOD	5.00	ug/L
2-Hexanone (MBK)	BLOD	5.00	ug/L
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L
Acetone	BLOD	10.0	ug/L
Acrylonitrile	BLOD	5.00	ug/L
Benzene	BLOD	1.00	ug/L
Bromochloromethane	BLOD	1.00	ug/L
Bromodichloromethane	BLOD	0.50	ug/L
Bromoform	BLOD	1.00	ug/L
Bromomethane	BLOD	1.00	ug/L
Carbon disulfide	BLOD	10.0	ug/L
Carbon tetrachloride	BLOD	1.00	ug/L
Chlorobenzene	BLOD	1.00	ug/L
Chloroethane	BLOD	1.00	ug/L



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Blank (BCJ0871-BLK1)

Prepared & Analyzed: 10/22/2019

Chloroform	BLOD	0.50	ug/L							
Chloromethane	BLOD	1.00	ug/L							
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L							
cis-1,3-Dichloropropene	BLOD	1.00	ug/L							
Dibromochloromethane	BLOD	0.50	ug/L							
Dibromomethane	BLOD	1.00	ug/L							
Ethylbenzene	BLOD	1.00	ug/L							
Iodomethane	BLOD	10.0	ug/L							
m+p-Xylenes	BLOD	2.00	ug/L							
Methylene chloride	BLOD	4.00	ug/L							
o-Xylene	BLOD	1.00	ug/L							
Styrene	BLOD	1.00	ug/L							
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L							
Toluene	BLOD	1.00	ug/L							
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L							
trans-1,3-Dichloropropene	BLOD	1.00	ug/L							
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L							
Trichloroethylene	BLOD	1.00	ug/L							
Trichlorofluoromethane	BLOD	1.00	ug/L							
Vinyl acetate	BLOD	10.0	ug/L							
Vinyl chloride	BLOD	0.50	ug/L							
Xylenes, Total	BLOD	3.00	ug/L							
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.3</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>52.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>104</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>47.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>95.6</i>	<i>70-130</i>			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Blank (BCJ0871-BLK1)

Prepared & Analyzed: 10/22/2019

<i>Surr: Toluene-d8 (Surr)</i>	50.1		ug/L	50.0		100	70-130
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LCS (BCJ0871-BS1)

Prepared & Analyzed: 10/22/2019

1,1,1,2-Tetrachloroethane	46.0	0.4	ug/L	50.0		91.9	80-130
1,1,1-Trichloroethane	48.3	1	ug/L	50.0		96.5	65-130
1,1,2,2-Tetrachloroethane	41.2	0.4	ug/L	50.0		82.5	65-130
1,1,2-Trichloroethane	46.4	1	ug/L	50.0		92.8	75-125
1,1-Dichloroethane	47.3	1	ug/L	50.0		94.5	70-135
1,1-Dichloroethylene	46.5	1	ug/L	50.0		93.1	70-130
1,2,3-Trichloropropane	40.9	1	ug/L	50.0		81.9	75-125
1,2-Dichlorobenzene	47.3	1	ug/L	50.0		94.5	70-120
1,2-Dichloroethane	39.6	1	ug/L	50.0		79.1	70-130
1,2-Dichloropropane	47.6	1	ug/L	50.0		95.2	75-125
1,4-Dichlorobenzene	46.4	1	ug/L	50.0		92.9	75-125
2-Butanone (MEK)	37.5	5	ug/L	50.0		74.9	30-150
2-Hexanone (MBK)	44.1	5	ug/L	50.0		88.2	55-130
4-Methyl-2-pentanone (MIBK)	43.9	5	ug/L	50.0		87.8	60-135
Acetone	40.4	10	ug/L	50.0		80.7	40-140
Acrylonitrile	244	5	ug/L	250		97.8	70-130
Benzene	49.1	1	ug/L	50.0		98.2	80-120
Bromochloromethane	43.9	1	ug/L	50.0		87.7	65-130
Bromodichloromethane	45.1	0.5	ug/L	50.0		90.2	75-120
Bromoform	43.4	1	ug/L	50.0		86.9	70-130
Bromomethane	28.0	1	ug/L	50.0		55.9	30-145
Carbon disulfide	46.6	10	ug/L	50.0		93.2	35-160



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

LCS (BCJ0871-BS1)

Prepared & Analyzed: 10/22/2019

Carbon tetrachloride	50.8	1	ug/L	50.0		102	65-140			
Chlorobenzene	50.3	1	ug/L	50.0		101	80-120			
Chloroethane	41.0	1	ug/L	50.0		82.1	60-135			
Chloroform	40.6	0.5	ug/L	50.0		81.2	65-135			
Chloromethane	57.1	1	ug/L	50.0		114	40-125			
cis-1,2-Dichloroethylene	44.9	1	ug/L	50.0		89.8	70-125			
cis-1,3-Dichloropropene	49.5	1	ug/L	50.0		99.1	70-130			
Dibromochloromethane	47.5	0.5	ug/L	50.0		95.1	60-135			
Dibromomethane	44.5	1	ug/L	50.0		88.9	75-125			
Ethylbenzene	50.2	1	ug/L	50.0		100	75-125			
m+p-Xylenes	102	2	ug/L	100		102	75-130			
Methylene chloride	43.8	4	ug/L	50.0		87.6	55-140			
o-Xylene	51.1	1	ug/L	50.0		102	80-120			
Styrene	49.8	1	ug/L	50.0		99.6	65-135			
Tetrachloroethylene (PCE)	70.8	1	ug/L	50.0		142	45-150			
Toluene	50.7	1	ug/L	50.0		101	75-120			
trans-1,2-Dichloroethylene	49.8	1	ug/L	50.0		99.7	60-140			
trans-1,3-Dichloropropene	45.2	1	ug/L	50.0		90.3	55-140			
Trichloroethylene	49.6	1	ug/L	50.0		99.3	70-125			
Trichlorofluoromethane	38.1	1	ug/L	50.0		76.3	60-145			
Vinyl chloride	42.4	0.5	ug/L	50.0		84.8	50-145			
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>46.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>92.9</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>51.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>46.0</i>		<i>ug/L</i>	<i>50.0</i>		<i>92.0</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>50.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>			



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Duplicate (BCJ0871-DUP1)	Source: 19J0949-01			Prepared & Analyzed: 10/22/2019						
1,1,1,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	BLOD	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	BLOD	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	BLOD	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	BLOD	5.00	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	BLOD	5.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	BLOD	5.00	ug/L		BLOD			NA	30	
Acetone	BLOD	10.0	ug/L		BLOD			NA	30	
Acrylonitrile	BLOD	5.00	ug/L		BLOD			NA	30	
Benzene	BLOD	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	BLOD	0.50	ug/L		BLOD			NA	30	
Bromoform	BLOD	1.00	ug/L		BLOD			NA	30	
Bromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	BLOD	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	BLOD	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Chloroethane	BLOD	1.00	ug/L		BLOD			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Duplicate (BCJ0871-DUP1)

Source: 19J0949-01

Prepared & Analyzed: 10/22/2019

Chloroform	BLOD	0.50	ug/L		BLOD			NA	30	
Chloromethane	BLOD	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	BLOD	0.50	ug/L		BLOD			NA	30	
Dibromomethane	BLOD	1.00	ug/L		BLOD			NA	30	
Ethylbenzene	BLOD	1.00	ug/L		BLOD			NA	30	
Iodomethane	BLOD	10.0	ug/L		BLOD			NA	30	
m+p-Xylenes	BLOD	2.00	ug/L		BLOD			NA	30	
Methylene chloride	BLOD	4.00	ug/L		BLOD			NA	30	
o-Xylene	BLOD	1.00	ug/L		BLOD			NA	30	
Styrene	BLOD	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	BLOD	1.00	ug/L		BLOD			NA	30	
Toluene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	BLOD	1.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	BLOD	4.00	ug/L		BLOD			NA	30	
Trichloroethylene	BLOD	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	BLOD	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	BLOD	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	BLOD	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	BLOD	3.00	ug/L		BLOD			NA	30	

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>47.2</i>	<i>ug/L</i>	<i>50.0</i>	<i>94.3</i>	<i>70-120</i>
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>51.5</i>	<i>ug/L</i>	<i>50.0</i>	<i>103</i>	<i>75-120</i>
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>47.1</i>	<i>ug/L</i>	<i>50.0</i>	<i>94.2</i>	<i>70-130</i>



Certificate of Analysis

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Date Issued: 11/5/2019 3:31:44PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Duplicate (BCJ0871-DUP1)		Source: 19J0949-01		Prepared & Analyzed: 10/22/2019						
<i>Surr: Toluene-d8 (Surr)</i>		49.9	ug/L	50.0		99.8	70-130			
Matrix Spike (BCJ0871-MS1)		Source: 19J0949-01		Prepared & Analyzed: 10/22/2019						
1,1,1,2-Tetrachloroethane	44.0	0.4	ug/L	50.0	BLOD	88.0	80-130			
1,1,1-Trichloroethane	46.8	1	ug/L	50.0	BLOD	93.6	65-130			
1,1,2,2-Tetrachloroethane	42.1	0.4	ug/L	50.0	BLOD	84.3	65-130			
1,1,2-Trichloroethane	46.1	1	ug/L	50.0	BLOD	92.3	75-125			
1,1-Dichloroethane	46.6	1	ug/L	50.0	BLOD	93.2	70-135			
1,1-Dichloroethylene	43.5	1	ug/L	50.0	BLOD	87.0	70-130			
1,2,3-Trichloropropane	42.6	1	ug/L	50.0	BLOD	85.2	75-125			
1,2-Dichlorobenzene	44.9	1	ug/L	50.0	BLOD	89.8	70-120			
1,2-Dichloroethane	39.6	1	ug/L	50.0	BLOD	79.3	70-130			
1,2-Dichloropropane	46.4	1	ug/L	50.0	BLOD	92.7	75-125			
1,4-Dichlorobenzene	43.8	1	ug/L	50.0	BLOD	87.7	75-125			
2-Butanone (MEK)	42.2	5	ug/L	50.0	BLOD	84.5	30-150			
2-Hexanone (MBK)	46.2	5	ug/L	50.0	BLOD	92.5	55-130			
4-Methyl-2-pentanone (MIBK)	47.3	5	ug/L	50.0	BLOD	94.6	60-135			
Acetone	43.8	10	ug/L	50.0	BLOD	82.6	40-140			
Acrylonitrile	232	5	ug/L	250	BLOD	92.6	70-130			
Benzene	47.6	1	ug/L	50.0	BLOD	95.2	80-120			
Bromochloromethane	43.0	1	ug/L	50.0	BLOD	86.0	65-130			
Bromodichloromethane	44.8	0.5	ug/L	50.0	BLOD	89.6	75-120			
Bromoform	43.2	1	ug/L	50.0	BLOD	86.4	70-130			
Bromomethane	28.6	1	ug/L	50.0	BLOD	57.2	30-145			
Carbon disulfide	43.4	10	ug/L	50.0	BLOD	86.8	35-160			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0871 - SW5030B

Matrix Spike (BCJ0871-MS1)	Source: 19J0949-01			Prepared & Analyzed: 10/22/2019						
Carbon tetrachloride	47.4	1	ug/L	50.0	BLOD	94.8	65-140			
Chlorobenzene	47.1	1	ug/L	50.0	BLOD	94.1	80-120			
Chloroethane	40.9	1	ug/L	50.0	BLOD	81.7	60-135			
Chloroform	40.5	0.5	ug/L	50.0	BLOD	80.9	65-135			
Chloromethane	54.8	1	ug/L	50.0	BLOD	110	40-125			
cis-1,2-Dichloroethylene	44.4	1	ug/L	50.0	BLOD	88.9	70-125			
cis-1,3-Dichloropropene	47.8	1	ug/L	50.0	BLOD	95.6	70-130			
Dibromochloromethane	46.8	0.5	ug/L	50.0	BLOD	93.5	60-135			
Dibromomethane	44.0	1	ug/L	50.0	BLOD	88.0	75-125			
Ethylbenzene	46.8	1	ug/L	50.0	BLOD	93.6	75-125			
m+p-Xylenes	95.2	2	ug/L	100	BLOD	95.2	75-130			
Methylene chloride	43.3	4	ug/L	50.0	BLOD	86.1	55-140			
o-Xylene	47.5	1	ug/L	50.0	BLOD	95.0	80-120			
Styrene	46.8	1	ug/L	50.0	BLOD	93.6	65-135			
Tetrachloroethylene (PCE)	64.7	1	ug/L	50.0	BLOD	129	45-150			
Toluene	47.3	1	ug/L	50.0	BLOD	94.6	75-120			
trans-1,2-Dichloroethylene	49.1	1	ug/L	50.0	BLOD	98.1	60-140			
trans-1,3-Dichloropropene	44.3	1	ug/L	50.0	BLOD	88.7	55-140			
Trichloroethylene	48.3	1	ug/L	50.0	BLOD	96.7	70-125			
Trichlorofluoromethane	34.5	1	ug/L	50.0	BLOD	69.0	60-145			
Vinyl chloride	41.1	0.5	ug/L	50.0	BLOD	82.2	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	49.2		ug/L	50.0		98.4	70-120			
Surr: 4-Bromofluorobenzene (Surr)	51.0		ug/L	50.0		102	75-120			
Surr: Dibromofluoromethane (Surr)	47.4		ug/L	50.0		94.7	70-130			
Surr: Toluene-d8 (Surr)	49.9		ug/L	50.0		99.8	70-130			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0652 - SW3510C

Blank (BCJ0652-BLK1)

Prepared: 10/17/2019 Analyzed: 10/18/2019

4-Aminobiphenyl	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	38.8		ug/L	100		38.8	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	20.4		ug/L	50.0		40.8	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	26.9		ug/L	100		26.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	21.2		ug/L	50.0		42.3	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	13.7		ug/L	100		13.7	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	24.4		ug/L	50.0		48.7	27-133			

Blank (BCJ0652-BLK2)

Prepared: 10/17/2019 Analyzed: 10/18/2019

4-Aminobiphenyl	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	44.9		ug/L	100		44.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	19.4		ug/L	50.0		38.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	27.2		ug/L	100		27.2	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	23.6		ug/L	50.0		47.3	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	16.6		ug/L	100		16.6	5-33			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0652 - SW3510C										
Blank (BCJ0652-BLK2)				Prepared: 10/17/2019 Analyzed: 10/18/2019						
<i>Surr: p-Terphenyl-d14 (Surr)</i>	29.8		ug/L	50.0		59.6	27-133			
LCS (BCJ0652-BS1)				Prepared: 10/17/2019 Analyzed: 10/18/2019						
bis (2-Ethylhexyl) phthalate	33.2	2.50	ug/L	50.0		66.3	30-125			
Dibenz (a,h) anthracene	29.3	10.0	ug/L	50.0		58.6	27-125			
Diethyl phthalate	26.2	10.0	ug/L	50.0		52.4	25-120			
Di-n-butyl phthalate	32.8	10.0	ug/L	50.0		65.6	35-115			
Indeno (1,2,3-cd) pyrene	29.3	10.0	ug/L	50.0		58.7	25-125			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	56.9		ug/L	100		56.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	20.6		ug/L	50.0		41.3	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	29.0		ug/L	100		29.0	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	22.7		ug/L	50.0		45.5	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	15.3		ug/L	100		15.3	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	28.7		ug/L	50.0		57.4	27-133			
Matrix Spike (BCJ0652-MS1)				Source: 19J0701-01 Prepared: 10/17/2019 Analyzed: 10/18/2019						
bis (2-Ethylhexyl) phthalate	37.9	2.66	ug/L	53.2	BLOD	71.3	30-125			
Dibenz (a,h) anthracene	40.6	10.6	ug/L	53.2	BLOD	76.3	27-125			
Diethyl phthalate	36.3	10.6	ug/L	53.2	BLOD	68.3	25-120			
Di-n-butyl phthalate	52.5	10.6	ug/L	53.2	BLOD	98.6	25-115			
Indeno (1,2,3-cd) pyrene	40.2	10.6	ug/L	53.2	BLOD	75.6	25-125			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	104		ug/L	106		98.0	10-86			S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	17.8		ug/L	53.2		33.5	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	15.9		ug/L	106		14.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	20.2		ug/L	53.2		37.9	10-98.5			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0652 - SW3510C										
Matrix Spike (BCJ0652-MS1)		Source: 19J0701-01			Prepared: 10/17/2019 Analyzed: 10/18/2019					
<i>Surr: Phenol-d5 (Surr)</i>	14.3		ug/L	106		13.5	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	29.1		ug/L	53.2		54.6	27-133			
Matrix Spike Dup (BCJ0652-MSD1)		Source: 19J0701-01			Prepared: 10/17/2019 Analyzed: 10/18/2019					
bis (2-Ethylhexyl) phthalate	38.5	2.63	ug/L	52.6	BLOD	73.2	30-125	1.57	20	
Dibenz (a,h) anthracene	39.0	10.5	ug/L	52.6	BLOD	74.0	27-125	4.12	20	
Diethyl phthalate	37.3	10.5	ug/L	52.6	BLOD	70.9	25-120	2.74	20	
Di-n-butyl phthalate	50.6	10.5	ug/L	52.6	BLOD	96.1	25-115	3.60	20	
Indeno (1,2,3-cd) pyrene	38.2	10.5	ug/L	52.6	BLOD	72.6	25-125	5.11	20	
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	99.8		ug/L	105		94.8	10-86			S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	26.1		ug/L	52.6		49.6	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	22.2		ug/L	105		21.1	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	28.5		ug/L	52.6		54.1	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	19.9		ug/L	105		18.9	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	28.6		ug/L	52.6		54.4	27-133			
Batch BCJ0787 - SW3510C										
Blank (BCJ0787-BLK1)		Prepared & Analyzed: 10/21/2019								
4-Aminobiphenyl	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	36.3		ug/L	100		36.3	10-86			



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 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0787 - SW3510C

Blank (BCJ0787-BLK1)

Prepared & Analyzed: 10/21/2019

<i>Surr: 2-Fluorobiphenyl (Surr)</i>	17.4		ug/L	50.0		34.7	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	26.7		ug/L	100		26.7	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	20.3		ug/L	50.0		40.6	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	13.8		ug/L	100		13.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	28.5		ug/L	50.0		56.9	27-133			

Blank (BCJ0787-BLK2)

Prepared: 10/21/2019 Analyzed: 10/22/2019

4-Aminobiphenyl	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	78.0		ug/L	100		78.0	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	34.9		ug/L	50.0		69.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	46.9		ug/L	100		46.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	37.4		ug/L	50.0		74.8	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	59.7		ug/L	100		59.7	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	42.7		ug/L	50.0		85.5	27-133			

LCS (BCJ0787-BS1)

Prepared & Analyzed: 10/21/2019

bis (2-Ethylhexyl) phthalate	44.0	2.50	ug/L	50.0		88.0	30-125			
Dibenz (a,h) anthracene	47.6	10.0	ug/L	50.0		95.2	27-125			
Diethyl phthalate	32.8	10.0	ug/L	50.0		65.5	25-120			
Di-n-butyl phthalate	51.2	10.0	ug/L	50.0		102	35-115			
Indeno (1,2,3-cd) pyrene	48.5	10.0	ug/L	50.0		97.0	25-125			



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0787 - SW3510C

LCS (BCJ0787-BS1)

Prepared & Analyzed: 10/21/2019

<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	70.7		ug/L	100		70.7	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	21.8		ug/L	50.0		43.7	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	28.6		ug/L	100		28.6	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	22.8		ug/L	50.0		45.7	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	15.4		ug/L	100		15.4	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	37.5		ug/L	50.0		75.0	27-133			

Batch BCJ0879 - SW3510C

Blank (BCJ0879-BLK1)

Prepared: 10/23/2019 Analyzed: 10/24/2019

4-Aminobiphenyl	BLOD	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	BLOD	2.50	ug/L							
Dibenz (a,h) anthracene	BLOD	10.0	ug/L							
Diethyl phthalate	BLOD	10.0	ug/L							
Di-n-butyl phthalate	BLOD	10.0	ug/L							
Indeno (1,2,3-cd) pyrene	BLOD	10.0	ug/L							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	53.1		ug/L	100		53.1	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	18.8		ug/L	50.0		37.7	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	0.680		ug/L	100		0.680	10-52			S
<i>Surr: Nitrobenzene-d5 (Surr)</i>	10.3		ug/L	50.0		20.7	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	4.49		ug/L	100		4.49	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	38.2		ug/L	50.0		76.4	27-133			

LCS (BCJ0879-BS1)

Prepared: 10/23/2019 Analyzed: 10/24/2019

bis (2-Ethylhexyl) phthalate	36.1	2.50	ug/L	50.0		72.1	30-125			
Dibenz (a,h) anthracene	39.1	10.0	ug/L	50.0		78.3	27-125			



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0879 - SW3510C										
LCS (BCJ0879-BS1)										
				Prepared: 10/23/2019 Analyzed: 10/24/2019						
Diethyl phthalate	33.8	10.0	ug/L	50.0		67.7	25-120			
Di-n-butyl phthalate	49.6	10.0	ug/L	50.0		99.3	35-115			
Indeno (1,2,3-cd) pyrene	39.7	10.0	ug/L	50.0		79.4	25-125			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	72.2		ug/L	100		72.2	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	20.8		ug/L	50.0		41.6	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	16.9		ug/L	100		16.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	25.4		ug/L	50.0		50.8	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	16.0		ug/L	100		16.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	32.6		ug/L	50.0		65.3	27-133			
Matrix Spike (BCJ0879-MS1)										
		Source: 19J1030-10			Prepared & Analyzed: 10/24/2019					
bis (2-Ethylhexyl) phthalate	35.5	2.53	ug/L	50.5	BLOD	70.3	30-125			
Dibenz (a,h) anthracene	37.7	10.1	ug/L	50.5	BLOD	74.7	27-125			
Diethyl phthalate	32.6	10.1	ug/L	50.5	BLOD	64.6	25-120			
Di-n-butyl phthalate	50.1	10.1	ug/L	50.5	BLOD	99.2	25-115			
Indeno (1,2,3-cd) pyrene	38.1	10.1	ug/L	50.5	BLOD	75.5	25-125			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	83.2		ug/L	101		82.3	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	19.1		ug/L	50.5		37.8	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	17.5		ug/L	101		17.3	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	24.5		ug/L	50.5		48.4	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	15.1		ug/L	101		15.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	34.5		ug/L	50.5		68.4	27-133			
Matrix Spike Dup (BCJ0879-MSD1)										
		Source: 19J1030-10			Prepared & Analyzed: 10/24/2019					
bis (2-Ethylhexyl) phthalate	34.2	2.53	ug/L	50.5	BLOD	67.6	30-125	3.91	20	
Dibenz (a,h) anthracene	37.4	10.1	ug/L	50.5	BLOD	74.0	27-125	0.942	20	



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0879 - SW3510C

Matrix Spike Dup (BCJ0879-MSD1)	Source: 19J1030-10		Prepared & Analyzed: 10/24/2019							
Diethyl phthalate	30.2	10.1	ug/L	50.5	BLOD	59.8	25-120	7.75	20	
Di-n-butyl phthalate	48.5	10.1	ug/L	50.5	BLOD	96.1	25-115	3.13	20	
Indeno (1,2,3-cd) pyrene	38.0	10.1	ug/L	50.5	BLOD	75.2	25-125	0.319	20	
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	79.7		ug/L	101		78.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	19.7		ug/L	50.5		39.1	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	15.7		ug/L	101		15.5	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	24.2		ug/L	50.5		47.9	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	15.0		ug/L	101		14.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	31.5		ug/L	50.5		62.3	27-133			



Certificate of Analysis

Client Name: Golder Associates, Inc.
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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0712 - SW3510C										
Blank (BCJ0712-BLK1) Prepared: 10/18/2019 Analyzed: 10/22/2019										
Endosulfan sulfate	BLOD	0.050	ug/L							
Surr: TCMX	0.200		ug/L	0.200		100	18-112			
Surr: DCB	0.200		ug/L	0.200		100	27-131			
LCS (BCJ0712-BS1) Prepared: 10/18/2019 Analyzed: 10/22/2019										
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.0	23-134			
Surr: TCMX	0.160		ug/L	0.200		80.0	18-112			
Surr: DCB	0.170		ug/L	0.200		85.0	27-131			
Matrix Spike (BCJ0712-MS1) Source: 19J0701-01 Prepared: 10/18/2019 Analyzed: 10/22/2019										
Endosulfan sulfate	0.052	0.052	ug/L	0.104	BLOD	50.0	23-134			
Surr: TCMX	0.115		ug/L	0.208		55.0	18-112			
Surr: DCB	0.104		ug/L	0.208		50.0	27-131			
Matrix Spike Dup (BCJ0712-MSD1) Source: 19J0701-01 Prepared: 10/18/2019 Analyzed: 10/22/2019										
Endosulfan sulfate	0.063	0.053	ug/L	0.105	BLOD	60.0	23-134	19.2	20	
Surr: TCMX	0.147		ug/L	0.211		70.0	18-112			
Surr: DCB	0.116		ug/L	0.211		55.0	27-131			
Batch BCJ0844 - SW3510C										
Blank (BCJ0844-BLK1) Prepared: 10/22/2019 Analyzed: 10/23/2019										
Endosulfan sulfate	BLOD	0.050	ug/L							
Surr: TCMX	0.130		ug/L	0.200		65.0	18-112			
Surr: DCB	0.100		ug/L	0.200		50.0	27-131			
LCS (BCJ0844-BS1) Prepared: 10/22/2019 Analyzed: 10/23/2019										



Certificate of Analysis

Client Name: Golder Associates, Inc.
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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ0844 - SW3510C

LCS (BCJ0844-BS1)

Prepared: 10/22/2019 Analyzed: 10/23/2019

Endosulfan sulfate	0.170	0.050	ug/L	0.100		170	23-134			L
Surr: TCMX	0.180		ug/L	0.200		90.0	18-112			
Surr: DCB	0.180		ug/L	0.200		90.0	27-131			



Certificate of Analysis

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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0810 - SW3510C										
Blank (BCJ0810-BLK1)										
				Prepared: 10/21/2019 Analyzed: 10/25/2019						
2,4,5-T	BLOD	0.500	ug/L							
<i>Surr: DCAA (Surr)</i>	1.00		ug/L	1.11		90.0	60-112			
LCS (BCJ0810-BS1)										
				Prepared: 10/21/2019 Analyzed: 10/25/2019						
2,4,5-T	0.444	0.500	ug/L	0.556		80.0	62-145			
<i>Surr: DCAA (Surr)</i>	0.944		ug/L	1.11		85.0	60-112			
Matrix Spike (BCJ0810-MS1)										
				Source: 19J0701-01 Prepared: 10/21/2019 Analyzed: 10/25/2019						
2,4,5-T	0.444	0.500	ug/L	0.556	BLOD	80.0	53-144			
<i>Surr: DCAA (Surr)</i>	1.00		ug/L	1.11		90.0	60-112			
Matrix Spike Dup (BCJ0810-MSD1)										
				Source: 19J0701-01 Prepared: 10/21/2019 Analyzed: 10/25/2019						
2,4,5-T	0.444	0.500	ug/L	0.556	BLOD	80.0	53-144	0.00	20	
<i>Surr: DCAA (Surr)</i>	1.00		ug/L	1.11		90.0	60-112			



Certificate of Analysis

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Micro-extractables by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0779 - SW8011										
Blank (BCJ0779-BLK1)				Prepared & Analyzed: 10/21/2019						
1,2-Dibromoethane (EDB)	BLOD	0.010	ug/L							
1,2,3-Trichloropropane	BLOD	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	BLOD	0.010	ug/L							
LCS (BCJ0779-BS1)				Prepared & Analyzed: 10/21/2019						
1,2-Dibromoethane (EDB)	0.298	0.010	ug/L	0.250		119	65-135			
1,2,3-Trichloropropane	0.266	0.010	ug/L	0.250		106	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.264	0.010	ug/L	0.250		105	65-135			
LCS Dup (BCJ0779-BSD1)				Prepared & Analyzed: 10/21/2019						
1,2-Dibromoethane (EDB)	0.282	0.010	ug/L	0.250		113	65-135	5.35	20	
1,2,3-Trichloropropane	0.263	0.010	ug/L	0.250		105	65-135	1.02	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.248	0.010	ug/L	0.250		99.2	65-135	6.11	20	
Matrix Spike (BCJ0779-MS1)				Source: 19J0512-02		Prepared & Analyzed: 10/21/2019				
1,2-Dibromoethane (EDB)	0.289	0.010	ug/L	0.252	BLOD	115	65-135			
1,2,3-Trichloropropane	0.230	0.010	ug/L	0.252	BLOD	91.2	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.226	0.010	ug/L	0.252	BLOD	89.8	65-135			
Matrix Spike Dup (BCJ0779-MSD1)				Source: 19J0512-02		Prepared & Analyzed: 10/21/2019				
1,2-Dibromoethane (EDB)	0.299	0.010	ug/L	0.251	BLOD	119	65-135	3.42	20	
1,2,3-Trichloropropane	0.211	0.010	ug/L	0.251	BLOD	84.3	65-135	8.43	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.216	0.010	ug/L	0.251	BLOD	86.1	65-135	4.70	20	



Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCJ0802 - No Prep Wet Chem										
Blank (BCJ0802-BLK1)				Prepared & Analyzed: 10/21/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCJ0802-BS1)				Prepared & Analyzed: 10/21/2019						
Sulfide	5.26	1	mg/L	5.00		105	80-120			
LCS Dup (BCJ0802-BSD1)				Prepared & Analyzed: 10/21/2019						
Sulfide	5.10	1	mg/L	5.00		102	80-120	3.09	20	
Matrix Spike (BCJ0802-MS1)				Source: 19J0810-04 Prepared & Analyzed: 10/21/2019						
Sulfide	6.00	1.00	mg/L	5.00	BLOD	120	75-125			
Matrix Spike Dup (BCJ0802-MSD1)				Source: 19J0810-04 Prepared & Analyzed: 10/21/2019						
Sulfide	6.00	1.00	mg/L	5.00	BLOD	120	75-125	0.00	20	
Batch BCJ1016 - No Prep Wet Chem										
Blank (BCJ1016-BLK1)				Prepared & Analyzed: 10/23/2019						
Sulfide	BLOD	1.00	mg/L							
LCS (BCJ1016-BS1)				Prepared & Analyzed: 10/23/2019						
Sulfide	5.47	1	mg/L	5.00		109	80-120			
LCS Dup (BCJ1016-BSD1)				Prepared & Analyzed: 10/23/2019						
Sulfide	5.50	1	mg/L	5.00		110	80-120	0.547	20	
Matrix Spike (BCJ1016-MS1)				Source: 19J0947-01 Prepared & Analyzed: 10/23/2019						
Sulfide	2.76	1.00	mg/L	5.00	BLOD	55.2	75-125			M



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

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Wet Chemistry Analysis - Quality Control
 Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BCJ1016 - No Prep Wet Chem

Matrix Spike Dup (BCJ1016-MSD1)		Source: 19J0947-01			Prepared & Analyzed: 10/23/2019					
Sulfide	2.72	1.00	mg/L	5.00	BLOD	54.4	75-125	1.46	20	M



Certificate of Analysis

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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
19J0840-01	50.0 mL / 50.0 mL	SW6010C	BCJ0751	SCJ0734	AJ90106
19J0840-02	50.0 mL / 50.0 mL	SW6010C	BCJ0751	SCJ0734	AJ90106
19J0840-04	50.0 mL / 50.0 mL	SW6010C	BCJ0751	SCJ0734	AJ90106
19J0840-05	50.0 mL / 50.0 mL	SW6010C	BCJ0751	SCJ0734	AJ90106
19J0840-06	50.0 mL / 50.0 mL	SW6010C	BCJ0751	SCJ0734	AJ90106
19J0947-01	50.0 mL / 50.0 mL	SW6010C	BCJ0860	SCJ0785	AJ90116
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
19J0840-01	50.0 mL / 50.0 mL	SW6020A	BCJ0753	SCJ0790	AJ90115
19J0840-02	50.0 mL / 50.0 mL	SW6020A	BCJ0753	SCJ0790	AJ90115
19J0840-04	50.0 mL / 50.0 mL	SW6020A	BCJ0753	SCJ0790	AJ90115
19J0840-05	50.0 mL / 50.0 mL	SW6020A	BCJ0753	SCJ0790	AJ90115
19J0840-06	50.0 mL / 50.0 mL	SW6020A	BCJ0753	SCJ0790	AJ90115
19J0947-01	50.0 mL / 50.0 mL	SW6020A	BCJ0861	SCJ0790	AJ90115
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
19J0840-01	6.00 mL / 6.00 mL	SW9215	BCJ0802	SCJ0684	
19J0840-02	6.00 mL / 6.00 mL	SW9215	BCJ0802	SCJ0684	
19J0840-04	6.00 mL / 6.00 mL	SW9215	BCJ0802	SCJ0684	
19J0840-06	6.00 mL / 6.00 mL	SW9215	BCJ0802	SCJ0684	
19J0840-05	6.00 mL / 6.00 mL	SW9215	BCJ1016	SCJ0995	
19J0947-01	6.00 mL / 6.00 mL	SW9215	BCJ1016	SCJ0995	



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method: SW3510C		
19J0840-01	940 mL / 1.00 mL	SW8270E	BCJ0652	SCJ0762	AC90105
19J0840-01	950 mL / 1.00 mL	SW8081B	BCJ0712	SCJ0771	AJ90096
19J0840-02	940 mL / 1.00 mL	SW8081B	BCJ0712	SCJ0771	AJ90096
19J0840-04	960 mL / 1.00 mL	SW8081B	BCJ0712	SCJ0771	AJ90096
19J0840-05	950 mL / 1.00 mL	SW8081B	BCJ0712	SCJ0771	AJ90096
19J0840-06	950 mL / 1.00 mL	SW8081B	BCJ0712	SCJ0771	AJ90096
19J0840-02	940 mL / 1.00 mL	SW8270E	BCJ0787	SCJ0773	AC90105
19J0840-04	940 mL / 1.00 mL	SW8270E	BCJ0787	SCJ0773	AC90105
19J0840-05	930 mL / 1.00 mL	SW8270E	BCJ0787	SCJ0773	AC90105
19J0840-06	950 mL / 1.00 mL	SW8270E	BCJ0787	SCJ0773	AC90105
19J0840-01	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0840-02	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0840-04	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0840-05	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0840-06	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0947-01	900 mL / 5.00 mL	SW8151A	BCJ0810	SCJ0930	AJ90130
19J0947-01	920 mL / 1.00 mL	SW8081B	BCJ0844	SCJ0848	AJ90096
19J0947-01	940 mL / 1.00 mL	SW8270E	BCJ0879	SCJ0927	AC90105
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
19J0840-01	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115
19J0840-02	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115
19J0840-04	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115
19J0840-05	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115
19J0840-06	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115
19J0840-07	5.00 mL / 5.00 mL	SW8260D	BCJ0722	SCJ0643	AI90115



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
19J0947-01	5.00 mL / 5.00 mL	SW8260D	BCJ0871	SCJ0753	AH90090
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
19J0840-01	20.0 mL / 20.0 mL	SW7470A	BCJ0713	SCJ0682	AJ90095
19J0840-02	20.0 mL / 20.0 mL	SW7470A	BCJ0713	SCJ0682	AJ90095
19J0840-04	20.0 mL / 20.0 mL	SW7470A	BCJ0713	SCJ0682	AJ90095
19J0840-05	20.0 mL / 20.0 mL	SW7470A	BCJ0713	SCJ0682	AJ90095
19J0840-06	20.0 mL / 20.0 mL	SW7470A	BCJ0713	SCJ0682	AJ90095
19J0947-01	20.0 mL / 20.0 mL	SW7470A	BCJ0916	SCJ0826	AJ90109
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
19J0840-01	59.6 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-02	59.9 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-03	60.2 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-04	60.2 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-05	60.1 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-06	59.9 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020
19J0840-07	58.5 mL / 2.00 mL	SW8011	BCJ0779	SCJ0678	AJ90020



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Sanitary Landfill
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Non-Potable Water</i>	
Barium	VELAP,WVDEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP
Chromium	VELAP,WVDEP
Cobalt	VELAP,WVDEP
Copper	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<i>SW6020A in Non-Potable Water</i>	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Lead	VELAP,WVDEP
Thallium	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8011 in Non-Potable Water</i>	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
<i>SW8081B in Non-Potable Water</i>	
Endosulfan sulfate	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Certified Analyses included in this Report

Analyte	Certifications
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Sanitary Landfill
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
Isobutyl Alcohol	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
SW8270E in Non-Potable Water	
4-Aminobiphenyl	NC,VELAP,WVDEP
bis (2-Ethylhexyl) phthalate	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Certified Analyses included in this Report

Analyte	Certifications
Dibenz (a,h) anthracene	NC,VELAP,WVDEP
Diethyl phthalate	NC,VELAP,WVDEP
Di-n-butyl phthalate	NC,VELAP,WVDEP
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2019
NC	North Carolina DENR	495	12/31/2020
VELAP Certificate #4337	NELAC-Virginia Certificate #10503	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2019



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Sanitary Landfill
Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Qualifiers and Definitions

E	Estimated concentration, outside calibration range
J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
P	Duplicate analysis does not meet the acceptance criteria for precision
S	Surrogate recovery was outside acceptance criteria
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1941 KEYBET ROAD
 RICHMOND, VIRGINIA 23237
 (804) 288-8288 PHONE
 (804)288-8287 FAX

State of Custody
 Permit # 1000
 Exp. 12
 Effective Jan 15, 2019

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Laurel Valley Sewerage Landfill	INVOICE TO: <u>Culpeper County</u>	PROJECT NAME/OWNER #: 25049 Compliance Cap
CONTACT: <u>Paul Howard</u>	INVOICE CONTACT: <u>Paul Howard</u>	SITE NAME: Laurel Valley Sewerage Landfill
ADDRESS: 1407 Leesylvania Road, Culpeper, VA 22705	INVOICE ADDRESS:	PROJECT NUMBER: 19115367
PHONE #: (804) 359-3940	INVOICE PHONE #: (804) 307-3803	P.O. #:
FAX #: (804) 307-3740	EMAIL: <u>phoward@culpeper.com</u>	Pre-treatment Program:

Is sample for compliance reporting? YES NO Is sample from a threatened supply? YES NO YES

SAMPLER NAME (PRINT): H. Taylor / M. Davis SAMPLER SIGNATURE: [Signature] Turn Around Time: 10 Days of 10 Days

Notes Codes: MB-Mechanically Biotreated Water DB-Distilled Water DC-Dechlorinated Water DR-Distilled OR-Original Water WB-Water ST-Other

CLIENT SAMPLE I.D.	Container	Composite	Field Filtered (Discard Material)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Media (See Codes)	ANALYSED / (PRESERVATIVE)											COMMENTS		
										#	1	2	3	4	5	6	7	8	9	10		11	12
1) MW-18	X	X	X			05/25/19	1305	1315	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
2) MW-18	X	X	X			05/25/19	1300	1305	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
3) MW-2A	X	X	X			05/25/19	1335	1345	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
4) MW-11	X	X	X			05/26/19	0735	0745	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
5) MW-10	X	X	X			05/26/19	0735	0745	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
6) Trip Blank	X	X	X			05/26/19	1113	1113	C	X	X	X	X	X	X	X	X	X	X	X	X	X	
7) Trip Blank	X	X	X							6	X	X	X	X	X	X	X	X	X	X	X	X	

LAB USE ONLY COOLER TEMP: 25.5 °C

GA 19J0840
 Laurel Valley Compliance With
 Rec'd: 08/17/2019 Due: 10/31/2019

Level II

Sample Preservation Log

Order ID _____

Date Performed 10/18/19

Analyst Performing Check KAKZ

Sample ID	Location	Merch	Cyanide	Sulfide	Ammonia	TOR	Flow, Tot	NO ₃ (asN)	NO ₂	Phosphate	SVOC	COT		Asbestos		Other	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
01	A									✓	✓						
01	D			✓													
01	E	✓															
02	A									✓	✓						
02	D			✓													
02	E	✓															
04	A									✓	✓						
04	D			✓													
04	E	✓															
05	A									✓	✓						
05	D			✓													
05	E	✓															
06	A									✓	✓						
06	D			✓													
06	E	✓															

NACH ID: _____ PACH ID: _____ COT preserved detection: _____ Analyte Initials: _____
 NACH ID: _____ NACH ID: _____ *all must be adjusted between 0.1 & 1.0
 NACH ID: _____ NACH ID: _____ Buffer S/N ID: _____
 NACH ID: _____ NACH ID: _____ H₂O NACH ID: _____ H₂O NACH ID: _____

*This log applies to all COT and H₂O COT as an optional sample under 40 CFR 136.33 (a) (2) (ii)

CHAIN OF CUSTODY

Page 1 of 1

COMPANY NAME: <u>Earth Systems Laboratory</u>	INVOICE TO: <u>Lupeper County</u>	PROJECT NAME/OWNER: <u>Laurel Valley Compliance Wells</u>
CONTACT: <u>Monty Cherry Paul Hunk</u>	INVOICE CONTACT: <u>Paul Hunk</u>	SITE NAME: <u>Laurel Valley Compliance Wells</u>
ADDRESS: <u>1517 Laurel Valley Place # 200</u>	INVOICE ADDRESS:	PROJECT NUMBER: <u>111532</u>
PHONE #: <u>804-358-2000</u>	INVOICE PHONE #: <u>804-727-3409</u>	P.O. #:
FAX #: <u>804-358-2900</u>	EMAIL: <u>mhunk@earth.com</u>	Posttreatment Program:
Is sample for compliance reporting? <u>YES</u> NO	Is sample from a distributed supply? YES <u>NO</u>	PWS ID #:
SAMPLER NAME (PRINT): <u>N. Chen</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: <u>10</u> Days of <u>1</u> Day(s)

Blank Chain of Custody Worksheet Form (Blank) Chain of Custody Worksheet Form (Blank) Chain of Custody Worksheet Form (Blank) Chain of Custody Worksheet Form (Blank) Chain of Custody Worksheet Form (Blank)

CLIENT SAMPLE ID	Cool	Composite	Field Filtered (Describe Method)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Media (Spec Codes)	Number of Containers	ANALYSIS / PRESERVATIVE										COMMENTS					
											Aspirated	Aspirated	Aspirated	Aspirated	Aspirated	Aspirated	Aspirated	Aspirated	Aspirated	Aspirated		Aspirated	Aspirated	Aspirated	Aspirated	
11	X	X	X			1	09/19/19	13:00	13:00	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										

447 labels 11/17
 Sarah Endrey 10/1/19
 Lab Use Only COOLER TEMP 3.9 °C
 GA 19J0947
 Laurel Valley Compliance Wells
 Recd: 10/18/2019 Due: 11/01/2019



Sample Preservation Log

Sample Preservation Log
Form # 110-01
Rev # 02
Effective Date 12/20/09
Page 1 of 1

Order ID: 190947

Date Performed: 10/22/19

Analyst Performing Check: KMK2

Sample ID	Vial	Matrix	Container	Buffer	Acidulant	Temp	Pres. Type	NO ₃ -N	NH ₄ -N	Phosphate	SVOC	COT		Residue (mg/L)	Other	
												mg/L	mg/L			
01	A															
01	D	/														
01	F			/												

NaOH ID: _____ HNO₃ ID: _____ COT preserved (date/time) _____ Analyzed (date) _____
 HNO₃ ID: _____ NaOH ID: _____ * pH must be adjusted between 2.2 - 2.8
 HCL ID: _____ NaOH ID: _____ Buffer (date) ID: _____
 HCL ID: _____ NaOH ID: _____ H₂SO₄ ID: _____ H₂O ID: _____



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Sample Conditions Checklist

Samples Received at:	5.50°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 11/5/2019 3:31:44PM

Client Site I.D.: Laurel Valley Sanitary Landfill

Submitted To: Michele Clary

Received EDB SW8011 vials received for MW-3A (16 Oct 2019/13.30) added to the work order.

Trip Blank date and time (3 Oct 2019/9.24) as per bottle label.

Michele Clary notified by email.

THM 17 Oct 2019/17.31



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Sanitary Landfill
 Submitted To: Michele Clary

Date Issued: 11/5/2019 3:31:44PM

Sample Conditions Checklist

Samples Received at:	3.40°C
How were samples received?	AWS Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	No
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

8011 logged on WO 19J0840 as it was received on the 17th. Reference WO 19J0840 for trip blank information. SE 10/22/19 1101



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Golder Associates, Inc.
Client Site ID: Laurel Valley Compliance Wells
Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Laboratory Sample ID: 19K1046-02

Client Sample ID: PZ-4E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	02	SW7470A	0.00046		0.00020	0.00020	1	mg/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 19K1046

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave. Suite 200
Richmond, VA 23227

Date Received: November 22, 2019 14:12
Date Issued: December 3, 2019 16:30
Project Number: 19115362
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Compliance Wells

Enclosed are the results of analyses for samples received by the laboratory on 11/22/2019 14:12. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Compliance Wells
Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	19K1046-01	Ground Water	11/22/2019 10:30	11/22/2019 14:12
PZ-4E	19K1046-02	Ground Water	11/22/2019 10:45	11/22/2019 14:12
Field Blank	19K1046-03	Ground Water	11/22/2019 11:45	11/22/2019 14:12



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Client Sample ID: MW-1B

Laboratory Sample ID: 19K1046-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cadmium	01	7440-43-9	SW6010C	11/25/2019 16:00	11/26/2019 17:36	BLOD		0.0020	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 19K1046-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	02	7439-97-6	SW7470A	12/02/2019 10:34	12/03/2019 12:43	0.00046		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Client Sample ID: Field Blank

Laboratory Sample ID: 19K1046-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cadmium	03	7440-43-9	SW6010C	11/25/2019 16:00	11/26/2019 17:39	BLOD		0.0020	0.0040	1	mg/L	SNL
Mercury	03	7439-97-6	SW7470A	12/02/2019 10:34	12/03/2019 12:46	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCK0849 - EPA200.2/R2.8										
Blank (BCK0849-BLK1) Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	ND	0.0040	mg/L							
LCS (BCK0849-BS1) Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.502	0.0040	mg/L	0.500		100	80-120			
LCS Dup (BCK0849-BSD1) Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.501	0.0040	mg/L	0.500		100	80-120	0.145	20	
Matrix Spike (BCK0849-MS1) Source: 19K0936-01 Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.496	0.0040	mg/L	0.500	BLOD	99.2	75-125			
Matrix Spike (BCK0849-MS2) Source: 19K1013-01 Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.472	0.0040	mg/L	0.500	BLOD	94.5	75-125			
Matrix Spike Dup (BCK0849-MSD1) Source: 19K0936-01 Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.487	0.0040	mg/L	0.500	BLOD	97.3	75-125	1.91	20	
Matrix Spike Dup (BCK0849-MSD2) Source: 19K1013-01 Prepared: 11/25/2019 Analyzed: 11/26/2019										
Cadmium	0.479	0.0040	mg/L	0.500	BLOD	95.7	75-125	1.29	20	
Batch BCL0009 - SW7470A										
Blank (BCL0009-BLK1) Prepared: 12/02/2019 Analyzed: 12/03/2019										
Mercury	ND	0.00020	mg/L							
LCS (BCL0009-BS1) Prepared: 12/02/2019 Analyzed: 12/03/2019										
Mercury	0.00255	0.00020	mg/L	0.00250		102	80-120			



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BCL0009 - SW7470A										
LCS Dup (BCL0009-BSD1)				Prepared: 12/02/2019 Analyzed: 12/03/2019						
Mercury	0.00244	0.00020	mg/L	0.00250		97.6	80-120	4.57	20	
Matrix Spike (BCL0009-MS1)				Source: 19K0991-01		Prepared: 12/02/2019 Analyzed: 12/03/2019				
Mercury	0.00242	0.00020	mg/L	0.00250	BLOD	96.8	80-120			
Matrix Spike (BCL0009-MS2)				Source: 19K1046-03		Prepared: 12/02/2019 Analyzed: 12/03/2019				
Mercury	0.00280	0.00020	mg/L	0.00250	BLOD	112	80-120			
Matrix Spike Dup (BCL0009-MSD1)				Source: 19K0991-01		Prepared: 12/02/2019 Analyzed: 12/03/2019				
Mercury	0.00254	0.00020	mg/L	0.00250	BLOD	102	80-120	4.97	20	

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
19K1046-01	50.0 mL / 50.0 mL	SW6010C	BCK0849	SCK0785	AK90112
19K1046-03	50.0 mL / 50.0 mL	SW6010C	BCK0849	SCK0785	AK90112
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
19K1046-02	20.0 mL / 20.0 mL	SW7470A	BCL0009	SCL0075	AL90010
19K1046-03	20.0 mL / 20.0 mL	SW7470A	BCL0009	SCL0075	AL90010



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley Compliance Wells
 Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Certified Analyses included in this Report

Analyte	Certifications
SW6010C in Non-Potable Water	
Cadmium	VELAP,WVDEP
SW7470A in Non-Potable Water	
Mercury	VELAP,NC,WVDEP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2019
NC	North Carolina DENR	495	12/31/2020
PADEP	NELAC-Pennsylvania	001	10/31/2020
VELAP Certificate #4337	NELAC-Virginia Certificate #10503	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2020



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Compliance Wells
Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



LABORATORY, INC.

CHAIN OF CUSTODY

1341 BIRCHWOOD ROAD
ROCKFORD, WISCONSIN 53085
(815) 298-4399 FAX
(815) 298-4399 FAX

COMPANY NAME: Golden Associates PROJECT NAME/OUR: _____
 CONTACT: Michele Chang SERVICE CONTACT: _____
 ADDRESS: 2108 W. Laboratory Ave., Suite 204 SERVICE ADDRESS: _____
 PHONE #: 804-288-2300 SERVICE PHONE #: _____

DATE: 8/24/2007 ANALYST: [Signature]
 IS SAMPLE BEING COLLECTED FOR? (YES) NO PREVIOUS DATE: 11/15/06 IS SAMPLE FROM A SPECIAL DELIVERY? YES (NO)

CLIENT NAME (PRINT): 7 Industrial Mill Road SAMPLES REQUIRED: 10
 ANALYST SIGNATURE: [Signature]
 ANALYST: [Signature] TURN AROUND TIME: 0

CLIENT SAMPLE ID	Grab Composite Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / PRESERVATION	
									Ca BW6010	Hg BW7470
1. MW-1B	✓							1	X	
2. PZ-4E	✓							1	X	
3. Field Blank								1	X	
4										
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QA
 Laurel Valley
 Date: 11/22/07



Sample Preservation Log

Sample Preservation Log
Form 1700
Rev. 05/11
October 19, 2019
Page 1 of 2

Date: 11/22/19

Date Performed: 11/22/19

Analyst Performing Check: EMC/2

Sample ID	#	Matrix		Substrate		Acetone		TIN	Pres. Sol.	NOC-NOS		DFO	Pesticide		MPC		LVI		Residue (ppm)		
		ppm	ppm	ppm	ppm	ppm	ppm			ppm	ppm		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
01	A	✓																			
02	A	✓																			
03	A	✓																			

NOC-ID: _____ NOC-ID: _____ Cell preserved (Yes/No) _____ Analyte Initial: _____
 NOC-ID: _____ NOC-ID: _____ If not in adjacent boxes 1-31
 NOC-ID: _____ NOC-ID: _____ (In NOC-ID) _____ (In NOC-ID) _____

*Always utilize NOC/Pres. Sol. for a given sample. NOC ID is required.

THIS DOCUMENT IS UNCONTROLLED WHEN PRINTED
FROM Sample Preservation Log Link



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley Compliance Wells
Submitted To: Michele Clary

Date Issued: 12/3/2019 4:30:14PM

Sample Conditions Checklist

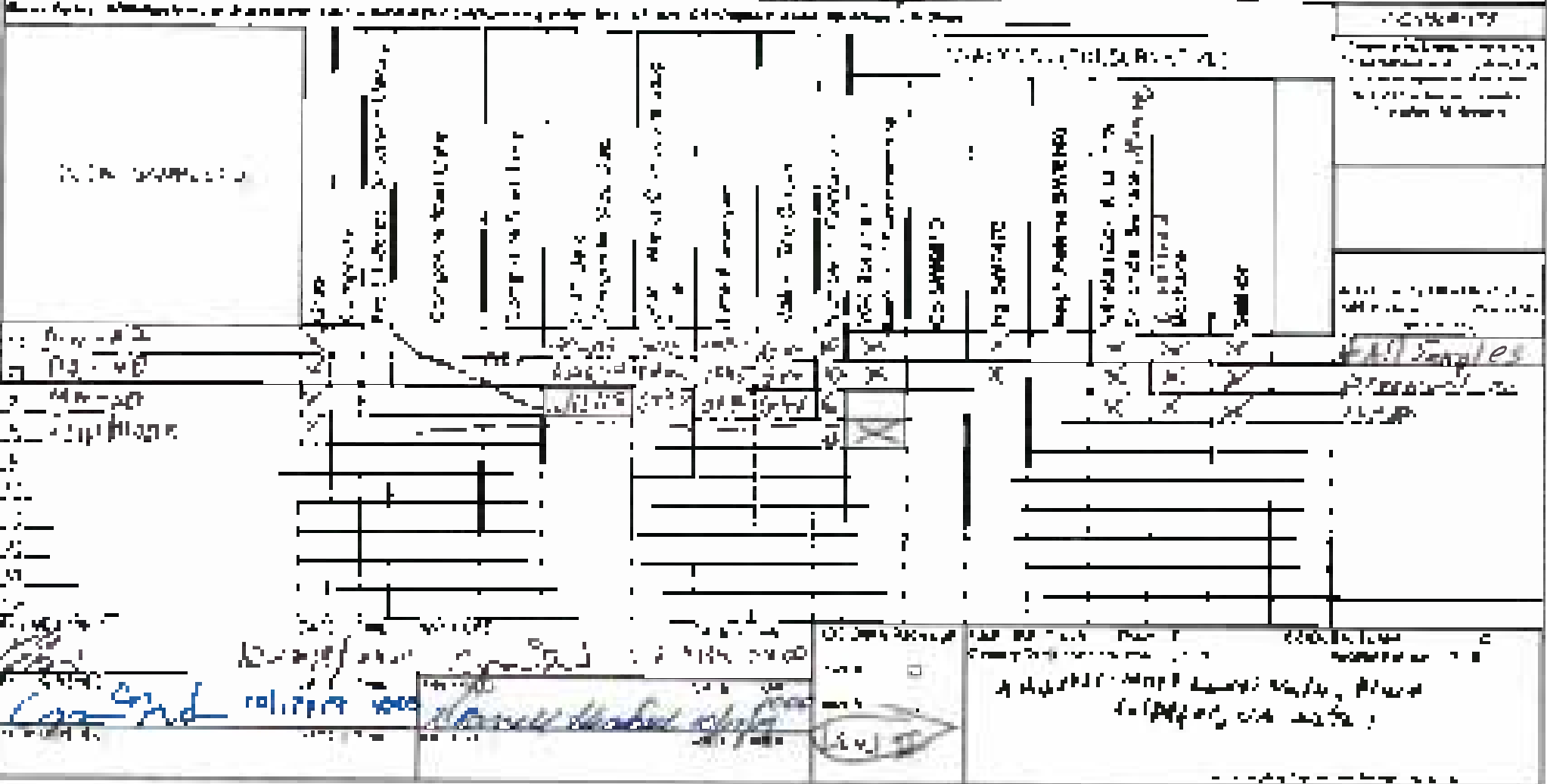
Samples Received at:	9.00°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

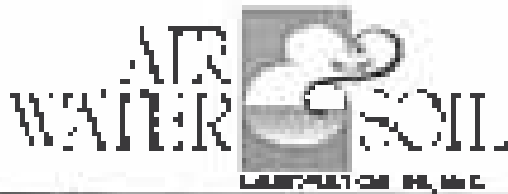
Work Order Comments

ORDER OF SURVEY

DATE OF SURVEY: 10/10/00

PROJECT NAME: <u>Green Arrow Mall</u>	CITY: <u>Clatsop County</u>	PROJECT NO. / DATE: <u>10/10/00</u>
CLIENT: <u>Green Arrow Mall</u>	PROJECT CONTACT: <u>Bill Johnson</u>	SITE ADDRESS: <u>1000 North 10th Street, Portland, OR 97228</u>
LOCATION: <u>1000 North 10th Street, Portland, OR 97228</u>	PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NUMBER: <u>10/10/00</u>
DATE OF SURVEY: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>
PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>
PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>	PROJECT NO. / DATE: <u>10/10/00</u>





111 WEST 1000 N
 SUITE 200
 OREM, UT 84403
 801.223.1111

www.airwaterandsoil.com
 800.451.1111

CHAIN OF CUSTODY

12/2/10

CLIENT: GREENHILLS PROJECT: Green Hills ANALYST: David Taylor
 ADDRESS: 1000 West 1000 N, Orem, UT 84403 PHONE CONTACT: 801.223.1111 METHOD: Lead
 DATE OF ANALYSIS: 12/2/10 ANALYST: David Taylor ANALYST SIGNATURE: [Signature]
 LABORATORY: Green Hills PROJECT: Green Hills ANALYST: David Taylor
 ANALYST SIGNATURE: [Signature]

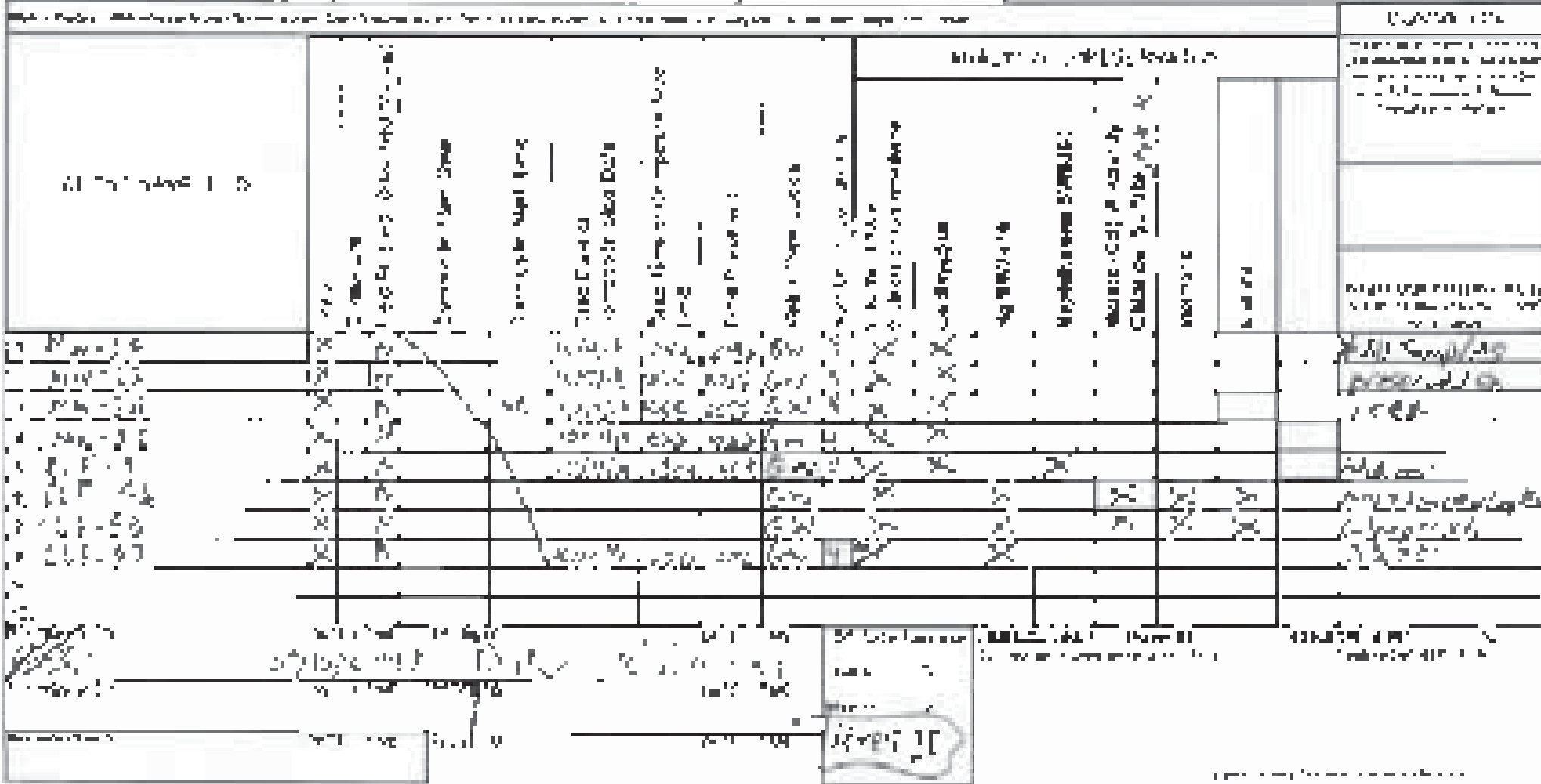
DATE	TIME	LOCATION	DEPTH	CONTAINER	PRESERVATION	ANALYSIS		REMARKS
						DATE	TIME	
12/2/10	08:00	1000 West 1000 N	0-10"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	10-20"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	20-30"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	30-40"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	40-50"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	50-60"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	60-70"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	70-80"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	80-90"	1000 West 1000 N	Lead	12/2/10	08:00	Lead
12/2/10	08:00	1000 West 1000 N	90-100"	1000 West 1000 N	Lead	12/2/10	08:00	Lead

ANALYST SIGNATURE: [Signature] DATE: 12/2/10
 LABORATORY: Green Hills PROJECT: Green Hills
 ANALYST SIGNATURE: [Signature] DATE: 12/2/10

CLAIM OF CUSTODY

10/19/2006

CONTRACT NO. <u>100-1000</u>	PROJECT NO. <u>100-1000</u>	CLIENT NAME <u>Land Valley Co. Inc.</u>
DATE OF ORDER <u>10/19/2006</u>	PROJECT CONTACT <u>Land Valley Co. Inc.</u>	PROJECT ADDRESS <u>Land Valley Co. Inc.</u>
PROJECT ADDRESS <u>Land Valley Co. Inc.</u>	PROJECT PHONE <u>Land Valley Co. Inc.</u>	PROJECT FAX <u>Land Valley Co. Inc.</u>
PROJECT CITY <u>Land Valley Co. Inc.</u>	PROJECT STATE <u>Land Valley Co. Inc.</u>	PROJECT ZIP <u>Land Valley Co. Inc.</u>
PROJECT COUNTY <u>Land Valley Co. Inc.</u>	PROJECT TRACT <u>Land Valley Co. Inc.</u>	PROJECT SECTION <u>Land Valley Co. Inc.</u>
PROJECT TOWNSHIP <u>Land Valley Co. Inc.</u>	PROJECT RANGE <u>Land Valley Co. Inc.</u>	PROJECT MERIDIAN <u>Land Valley Co. Inc.</u>



10/19/2006



1001 WEST 23RD
 BIRMINGHAM, ALABAMA 35202
 (205) 988-1300
 (205) 988-1301 FAX

FORM 1001
 10/1/87
 REV 1/88

GRAND CUSTODY

1-28-88

PROPERTY NAME: Grand Custody COUNTY: Madison PROJECT NUMBER: 100139
 CONTRACT: 1988-1-111-1 Paul Hood CLIENT: Paul Hood
 ADDRESS: 1001 West 23rd PROJECT ADDRESS: 1001 West 23rd
 PHONE: (205) 988-1300 PROJECT PHONE: (205) 988-1300
 CITY: Birmingham STATE: AL
 ZIP: 35202 COUNTY: Madison
 PROPERTY TYPE: Residential PROJECT TYPE: Residential
 PROJECT DESCRIPTION: Grand Custody PROJECT NUMBER: 100139

ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF AIR WATER & SOIL. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN.

NO.	DESCRIPTION	DATE	TIME	LOCATION	DEPTH	RESULTS	ANALYSIS (SAMPLING METHOD)										REMARKS									
							PH	TEMP	TURB	COND	TOC	THAL	NO ₃	NO ₂	AMMONIA	COD		BOD	HEAVY METALS							
1	Surface	12/2/87	8:00 AM	1001 West 23rd	0.5	PH: 7.5, COND: 145, TOC: 1.5																				
2	Ground	12/2/87	8:30 AM	1001 West 23rd	1.5	PH: 7.8, COND: 150, TOC: 1.8																				
3	Surface	12/2/87	9:00 AM	1001 West 23rd	0.5	PH: 7.2, COND: 140, TOC: 1.2																				
4	Ground	12/2/87	9:30 AM	1001 West 23rd	1.5	PH: 7.5, COND: 145, TOC: 1.5																				
5	Surface	12/2/87	10:00 AM	1001 West 23rd	0.5	PH: 7.8, COND: 150, TOC: 1.8																				
6	Ground	12/2/87	10:30 AM	1001 West 23rd	1.5	PH: 7.5, COND: 145, TOC: 1.5																				
7	Surface	12/2/87	11:00 AM	1001 West 23rd	0.5	PH: 7.2, COND: 140, TOC: 1.2																				
8	Ground	12/2/87	11:30 AM	1001 West 23rd	1.5	PH: 7.5, COND: 145, TOC: 1.5																				

ANALYST: [Signature] DATE: 12/2/87 TIME: 11:00 AM
 SUPERVISOR: [Signature] DATE: 12/2/87 TIME: 11:30 AM
 PROJECT NUMBER: 100139 CLIENT: Paul Hood
 PROJECT ADDRESS: 1001 West 23rd CITY: Birmingham STATE: AL ZIP: 35202
 PROJECT TYPE: Residential PROJECT DESCRIPTION: Grand Custody
 PROJECT PHONE: (205) 988-1300 COUNTY: Madison



LABORATORIES, INC.

141 BRIMLEY ROAD
 NEWTON, MASSACHUSETTS
 02459-1033
 (617) 552-7272

Form No. 100-1
 Rev. 11/88
 Expires 12/31/94

CHAIN OF CUSTODY

Date: _____

ACCOUNT NAME GEMIN TECHNOLOGIES	PROJECT CUPPER CREEK	PROJECT LOCATION 1000
ANALYST Analytical Group P	ANALYST Paul Hume	DATE 1/15/95
ADDRESS 1000	PHONE 1000	PROJECT NUMBER 1000
ADDRESS 1000	PHONE 1000	PROJECT NUMBER 1000
PROJECT 1000	DATE 1/15/95	PROJECT NUMBER 1000
LABORATORY USE ONLY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	LABORATORY USE ONLY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	LABORATORY USE ONLY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

DATE OF SAMPLE 1/15/95	SAMPLER IDENTIFICATION 1000	LABORATORY USE ONLY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
---------------------------	--------------------------------	--

DATE	TIME	LOCATION	SAMPLER	SAMPLER ID	SAMPLER TYPE	SAMPLER OPERATOR	SAMPLER COMMENTS	ANALYST	LABORATORY USE ONLY	EQUIPMENT	REMARKS	LABORATORY USE ONLY

STATE OF TEXAS
 DEPARTMENT OF TRANSPORTATION
 ROAD & BRIDGE DIVISION
 CDD-714-01-1-01

Project No. 01-1-01-01
 Date: 01/15/01

STATE OF TEXAS
 DEPARTMENT OF TRANSPORTATION
 ROAD & BRIDGE DIVISION
 CDD-714-01-1-01

Page 1 of 1

PROJECT NO. 01-1-01-01
 ROAD & BRIDGE DIVISION

PROJECT NO. 01-1-01-01
 ROAD & BRIDGE DIVISION

PROJECT NO. 01-1-01-01

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PROJECT NO. 01-1-01-01

PROJECT NO. 01-1-01-01

PROJECT NO. 01-1-01-01

PROJECT NO. 01-1-01-01



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Laboratory Sample ID: 20E0002-02 Client Sample ID: MW-1B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02	SW6010C	0.141		0.0050	0.0100	1	mg/L
Cobalt	02	SW6020A	11.4		0.200	1.00	1	ug/L
1,1-Dichloroethane	02	SW8260D	4.66		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	4.49		0.40	1.00	1	ug/L
Benzene	02	SW8260D	1.39		0.40	1.00	1	ug/L
Chlorobenzene	02	SW8260D	2.83		0.40	1.00	1	ug/L
Chloroethane	02	SW8260D	1.38		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	5.40		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260D	0.46	J	0.40	1.00	1	ug/L
Vinyl chloride	02	SW8260D	1.33		0.50	0.50	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Laboratory Sample ID: 20E0002-03 Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	03	SW6020A	0.77	J	0.50	1.0	1	ug/L
Barium	03	SW6010C	0.305		0.0050	0.0100	1	mg/L
Cobalt	03	SW6020A	31.6		0.200	1.00	1	ug/L
Copper	03	SW6010C	0.0171		0.0080	0.0100	1	mg/L
Lead	03	SW6020A	1.72		1.00	1.00	1	ug/L
Nickel	03	SW6010C	0.1073		0.0070	0.0100	1	mg/L
Zinc	03	SW6010C	0.0160		0.0100	0.0100	1	mg/L
1,1-Dichloroethane	03	SW8260D	3.46		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	03	SW8260D	1.54		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260D	17.4		0.40	1.00	1	ug/L
Benzene	03	SW8260D	1.74		0.40	1.00	1	ug/L
Chlorobenzene	03	SW8260D	16.2		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260D	4.55		0.40	1.00	1	ug/L
Trichloroethylene	03	SW8260D	1.30		0.40	1.00	1	ug/L

Laboratory Sample ID: 20E0002-04 Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6010C	0.115		0.0050	0.0100	1	mg/L
Cobalt	04	SW6020A	2.64		0.200	1.00	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Laboratory Sample ID: 20E0002-05 Client Sample ID: MW-4

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Arsenic	05	SW6020A	0.51	J	0.50	1.0	1	ug/L
Barium	05	SW6010C	0.0575		0.0050	0.0100	1	mg/L
Cobalt	05	SW6020A	15.0		0.200	1.00	1	ug/L
Nickel	05	SW6010C	0.0081	J	0.0070	0.0100	1	mg/L
Vanadium	05	SW6010C	0.0107		0.0080	0.0100	1	mg/L
1,1-Dichloroethane	05	SW8260D	1.07		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	05	SW8260D	5.29		0.40	1.00	1	ug/L
Benzene	05	SW8260D	0.62	J	0.40	1.00	1	ug/L
Chlorobenzene	05	SW8260D	2.68		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	05	SW8260D	1.04		0.40	1.00	1	ug/L

Laboratory Sample ID: 20E0002-06 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	06	SW6010C	0.0108		0.0050	0.0100	1	mg/L
gamma-Chlordane	06	SW8081B	0.028	J	0.005	0.053	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 20E0002

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave. Suite 200
Richmond, VA 23227

Date Received: April 30, 2020 16:14
Date Issued: May 14, 2020 17:11
Project Number: 19115362.100
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley LF

Enclosed are the results of analyses for samples received by the laboratory on 04/30/2020 16:14. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Trip Blank	20E0002-01	Ground Water	04/13/2020 13:30	04/30/2020 16:14
MW-1B	20E0002-02	Ground Water	04/29/2020 11:11	04/30/2020 16:14
MW-2B	20E0002-03	Ground Water	04/29/2020 11:35	04/30/2020 16:14
MW-3A	20E0002-04	Ground Water	04/29/2020 12:20	04/30/2020 16:14
MW-4	20E0002-05	Ground Water	04/29/2020 13:30	04/30/2020 16:14
MW-20	20E0002-06	Ground Water	04/30/2020 09:00	04/30/2020 16:14
Field Blank	20E0002-07	Ground Water	04/29/2020 12:00	04/30/2020 16:14



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0002-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	01	563-58-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	01	120-82-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	01	541-73-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	142-28-9	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	01	594-20-7	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	01	75-05-8	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	01	107-02-8	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	01	107-05-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0002-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	01	71-43-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	01	56-23-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	01	126-99-8	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-95-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	01	97-63-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	01	126-98-7	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.00	1.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0002-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	01	80-62-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	01	107-12-0	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	05/01/2020 12:52	05/01/2020 12:52	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	01	99.1 %	70-120	05/01/2020 12:52	05/01/2020 12:52							
Surr: 4-Bromofluorobenzene (Surr)	01	90.1 %	75-120	05/01/2020 12:52	05/01/2020 12:52							
Surr: Dibromofluoromethane (Surr)	01	106 %	70-130	05/01/2020 12:52	05/01/2020 12:52							
Surr: Toluene-d8 (Surr)	01	101 %	70-130	05/01/2020 12:52	05/01/2020 12:52							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0002-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	05/04/2020 09:30	05/04/2020 23:32	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	01	96-18-4	SW8011	05/04/2020 09:30	05/04/2020 23:32	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	05/04/2020 09:30	05/04/2020 23:32	BLOD		0.005	0.010	1	ug/L	LBH2



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	02	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:21	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	02	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:40	BLOD		0.50	1.0	1	ug/L	RCV
Barium	02	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:21	0.141		0.0050	0.0100	1	mg/L	SNL
Beryllium	02	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:21	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	02	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	02	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:40	11.4		0.200	1.00	1	ug/L	RCV
Chromium	02	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	02	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:21	BLOD		0.0080	0.0100	1	mg/L	SNL
Mercury	02	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:54	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	02	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0070	0.0100	1	mg/L	SNL
Lead	02	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:40	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	02	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:40	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	02	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	02	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	02	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:40	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	02	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:21	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	02	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:22	BLOD		0.0100	0.0100	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	4.66		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	02	563-58-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	02	120-82-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	541-73-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	142-28-9	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260D	05/01/2020 16:57	05/01/2020 16:57	4.49		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	02	594-20-7	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	02	75-05-8	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	02	107-02-8	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	02	107-05-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	02	71-43-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	1.39		0.40	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW8260D	05/01/2020 16:57	05/01/2020 16:57	2.83		0.40	1.00	1	ug/L	KCS
Chloroethane	02	75-00-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	1.38		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	02	126-99-8	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	5.40		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	02	97-63-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	02	78-83-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	02	126-98-7	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.00	1.50	1	ug/L	KCS



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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	02	80-62-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	02	107-12-0	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	02	100-42-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260D	05/01/2020 16:57	05/01/2020 16:57	0.46	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260D	05/01/2020 16:57	05/01/2020 16:57	1.33		0.50	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260D	05/01/2020 16:57	05/01/2020 16:57	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	02	99.5 %	70-120	05/01/2020 16:57	05/01/2020 16:57							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	02	91.4 %	75-120	05/01/2020 16:57	05/01/2020 16:57							
<i>Surr: Dibromofluoromethane (Surr)</i>	02	97.8 %	70-130	05/01/2020 16:57	05/01/2020 16:57							
<i>Surr: Toluene-d8 (Surr)</i>	02	97.6 %	70-130	05/01/2020 16:57	05/01/2020 16:57							



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Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
1,3,5-Trinitrobenzene	02	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	5.21	1	ug/L	SKS
1,3-Dinitrobenzene	02	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
1,4-Naphthoquinone	02	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
1-Naphthylamine	02	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	02	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
2,4,5-Trichlorophenol	02	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
2,4,6-Trichlorophenol	02	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
2,4-Dichlorophenol	02	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
2,4-Dimethylphenol	02	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		0.52	0.52	1	ug/L	SKS
2,4-Dinitrophenol	02	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		8.33	52.1	1	ug/L	SKS
2,4-Dinitrotoluene	02	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	10.4	1	ug/L	SKS
2,6-Dichlorophenol	02	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD	C	1.04	10.4	1	ug/L	SKS
2,6-Dinitrotoluene	02	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
2-Acetylaminofluorene	02	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
2-Chloronaphthalene	02	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.69	10.4	1	ug/L	SKS
2-Chlorophenol	02	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
2-Methylnaphthalene	02	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
2-Naphthylamine	02	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
2-Nitroaniline	02	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	20.8	1	ug/L	SKS
2-Nitrophenol	02	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
3,3'-Dichlorobenzidine	02	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
3,3'-Dimethylbenzidine	02	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
3-Methylcholanthrene	02	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS



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Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	02	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	20.8	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	02	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		8.33	52.1	1	ug/L	SKS
4-Aminobiphenyl	02	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
4-Bromophenyl phenyl ether	02	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
4-Chloroaniline	02	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD	C	2.08	10.4	1	ug/L	SKS
4-Chlorophenyl phenyl ether	02	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
4-Nitroaniline	02	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	20.8	1	ug/L	SKS
4-Nitrophenol	02	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	52.1	1	ug/L	SKS
5-Nitro-o-toluidine	02	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	02	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Acenaphthene	02	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Acenaphthylene	02	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Acetophenone	02	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	20.8	1	ug/L	SKS
Anthracene	02	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		5.21	10.4	1	ug/L	SKS
Benzo (a) anthracene	02	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	02	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		0.10	0.10	1	ug/L	SKS
Benzo (b) fluoranthene	02	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Benzo (g,h,i) perylene	02	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Benzo (k) fluoranthene	02	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		6.25	10.4	1	ug/L	SKS
Benzyl alcohol	02	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	20.8	1	ug/L	SKS
bis (2-Chloroethoxy) methane	02	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
bis (2-Chloroethyl) ether	02	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	02	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS



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Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	02	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		7.29	10.4	1	ug/L	SKS
Chlorobenzilate	02	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
Chrysene	02	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Diallate	02	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
Dibenz (a,h) anthracene	02	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Dibenzofuran	02	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	5.21	1	ug/L	SKS
Diethyl phthalate	02	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
Dimethoate	02	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
Dimethyl phthalate	02	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
Di-n-butyl phthalate	02	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Di-n-octyl phthalate	02	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		8.33	10.4	1	ug/L	SKS
Diphenylamine	02	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Disulfoton	02	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
Ethyl methanesulfonate	02	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	20.8	1	ug/L	SKS
Ethyl parathion	02	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
Famphur	02	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD	C	2.60	2.60	1	ug/L	SKS
Fluoranthene	02	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		5.21	10.4	1	ug/L	SKS
Fluorene	02	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.17	10.4	1	ug/L	SKS
Hexachlorobenzene	02	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	02	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		4.69	10.4	1	ug/L	SKS
Hexachlorocyclopentadiene	02	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Hexachloroethane	02	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
Hexachloropropene	02	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	02	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Isophorone	02	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	10.4	1	ug/L	SKS
Isosafrole	02	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Kepon	02	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
m+p-Cresols	02	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Methapyrilene	02	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Methyl methanesulfonate	02	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Methyl parathion	02	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
Naphthalene	02	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
Nitrobenzene	02	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
n-Nitrosodiethylamine	02	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	2.60	1	ug/L	SKS
n-Nitrosodimethylamine	02	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
n-Nitrosodi-n-butylamine	02	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
n-Nitrosodi-n-propylamine	02	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.65	10.4	1	ug/L	SKS
n-Nitrosodiphenylamine	02	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
n-Nitrosomethylethylamine	02	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
n-Nitrosopiperidine	02	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
n-Nitrosopyrrolidine	02	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	02	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD	C	2.08	10.4	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	02	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
o+m+p-Cresols	02	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
o-Cresol	02	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		8.33	10.4	1	ug/L	SKS
o-Toluidine	02	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	02	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	2.60	1	ug/L	SKS
p-Chloro-m-cresol	02	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		3.12	10.4	1	ug/L	SKS
Pentachlorobenzene	02	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	02	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	1.04	1	ug/L	SKS
Phenacetin	02	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		1.04	10.4	1	ug/L	SKS
Phenanthrene	02	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		5.21	10.4	1	ug/L	SKS
Phenol	02	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.60	10.4	1	ug/L	SKS
Phorate	02	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
p-Phenylenediamine	02	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Pronamide	02	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	10.4	1	ug/L	SKS
Pyrene	02	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		7.29	10.4	1	ug/L	SKS
Safrole	02	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 16:25	BLOD		2.08	2.60	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	02	65.5 %	10-86	05/05/2020 10:00	05/06/2020 16:25							
Surr: 2-Fluorobiphenyl (Surr)	02	51.9 %	9-87	05/05/2020 10:00	05/06/2020 16:25							
Surr: 2-Fluorophenol (Surr)	02	31.3 %	10-52	05/05/2020 10:00	05/06/2020 16:25							
Surr: Nitrobenzene-d5 (Surr)	02	54.8 %	10-98.5	05/05/2020 10:00	05/06/2020 16:25							
Surr: Phenol-d5 (Surr)	02	24.0 %	5-33	05/05/2020 10:00	05/06/2020 16:25							
Surr: p-Terphenyl-d14 (Surr)	02	59.7 %	27-133	05/05/2020 10:00	05/06/2020 16:25							



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	02	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.028	0.215	1	ug/L	LBH2
PCB as Aroclor 1221	02	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.022	0.215	1	ug/L	LBH2
PCB as Aroclor 1232	02	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.016	0.215	1	ug/L	LBH2
PCB as Aroclor 1242	02	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.044	0.215	1	ug/L	LBH2
PCB as Aroclor 1248	02	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.052	0.215	1	ug/L	LBH2
PCB as Aroclor 1254	02	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.038	0.215	1	ug/L	LBH2
PCB as Aroclor 1260	02	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.037	0.215	1	ug/L	LBH2
<i>Surr: DCB</i>	02	65.1 %	30-105	05/06/2020 09:50	05/07/2020 15:04							
<i>Surr: TCMX</i>	02	66.5 %	30-105	05/06/2020 09:50	05/07/2020 15:04							
4,4'-DDD	02	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
4,4'-DDE	02	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
4,4'-DDT	02	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Aldrin	02	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
alpha-BHC	02	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
alpha-Chlordane	02	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
beta-BHC	02	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.022	0.054	1	ug/L	LBH2
Chlordane	02	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.215	0.215	1	ug/L	LBH2
delta-BHC	02	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Dieldrin	02	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan I	02	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan II	02	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan sulfate	02	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Endrin	02	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Endrin aldehyde	02	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2



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Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	02	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
gamma-BHC (Lindane)	02	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
gamma-Chlordane	02	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Heptachlor	02	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Heptachlor epoxide	02	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Methoxychlor	02	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.005	0.054	1	ug/L	LBH2
Toxaphene	02	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 15:04	BLOD		0.215	1.08	1	ug/L	LBH2
Surr: TCMX	02	66.5 %	18-112	05/06/2020 09:50	05/07/2020 15:04							
Surr: DCB	02	62.9 %	27-131	05/06/2020 09:50	05/07/2020 15:04							



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Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	02	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 11:22	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 11:22	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	02	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 11:22	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	02	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 11:22	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	02	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 11:22	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	02	96.7 %	60-112	05/05/2020 14:20	05/12/2020 11:22							



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Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 16:39	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	02	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 16:39	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 16:39	BLOD		0.005	0.010	1	ug/L	LBH2



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Client Sample ID: MW-1B

Laboratory Sample ID: 20E0002-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	02	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD	CI	0.01	0.01	1	mg/L	JH
Sulfide	02	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	03	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	03	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:42	0.77	J	0.50	1.0	1	ug/L	RCV
Barium	03	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:23	0.305		0.0050	0.0100	1	mg/L	SNL
Beryllium	03	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:23	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	03	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	03	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:42	31.6		0.200	1.00	1	ug/L	RCV
Chromium	03	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	03	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:24	0.0171		0.0080	0.0100	1	mg/L	SNL
Mercury	03	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:56	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	03	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:24	0.1073		0.0070	0.0100	1	mg/L	SNL
Lead	03	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:42	1.72		1.00	1.00	1	ug/L	RCV
Antimony	03	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:42	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	03	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	03	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	03	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:42	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	03	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:24	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	03	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:24	0.0160		0.0100	0.0100	1	mg/L	SNL



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	3.46		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	03	563-58-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	03	120-82-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	1.54		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	03	541-73-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	142-28-9	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260D	05/01/2020 17:20	05/01/2020 17:20	17.4		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	03	594-20-7	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	03	75-05-8	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	03	107-02-8	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	03	107-05-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	03	71-43-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	1.74		0.40	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW8260D	05/01/2020 17:20	05/01/2020 17:20	16.2		0.40	1.00	1	ug/L	KCS
Chloroethane	03	75-00-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	03	126-99-8	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	4.55		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	03	97-63-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	03	78-83-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	03	126-98-7	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.00	1.50	1	ug/L	KCS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	03	80-62-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	03	107-12-0	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	03	100-42-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260D	05/01/2020 17:20	05/01/2020 17:20	1.30		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	03	75-01-4	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	03	1330-20-7	SW8260D	05/01/2020 17:20	05/01/2020 17:20	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	96.1 %	70-120	05/01/2020 17:20	05/01/2020 17:20							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	91.6 %	75-120	05/01/2020 17:20	05/01/2020 17:20							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	95.0 %	70-130	05/01/2020 17:20	05/01/2020 17:20							
<i>Surr: Toluene-d8 (Surr)</i>	03	98.9 %	70-130	05/01/2020 17:20	05/01/2020 17:20							



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Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	03	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
1,3,5-Trinitrobenzene	03	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	5.32	1	ug/L	SKS
1,3-Dinitrobenzene	03	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
1,4-Naphthoquinone	03	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
1-Naphthylamine	03	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	03	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
2,4,5-Trichlorophenol	03	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
2,4,6-Trichlorophenol	03	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
2,4-Dichlorophenol	03	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
2,4-Dimethylphenol	03	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		0.53	0.53	1	ug/L	SKS
2,4-Dinitrophenol	03	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		8.51	53.2	1	ug/L	SKS
2,4-Dinitrotoluene	03	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	10.6	1	ug/L	SKS
2,6-Dichlorophenol	03	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD	C	1.06	10.6	1	ug/L	SKS
2,6-Dinitrotoluene	03	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
2-Acetylaminofluorene	03	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
2-Chloronaphthalene	03	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.79	10.6	1	ug/L	SKS
2-Chlorophenol	03	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
2-Methylnaphthalene	03	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
2-Naphthylamine	03	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
2-Nitroaniline	03	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	21.3	1	ug/L	SKS
2-Nitrophenol	03	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
3,3'-Dichlorobenzidine	03	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
3,3'-Dimethylbenzidine	03	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
3-Methylcholanthrene	03	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS



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Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	03	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	21.3	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	03	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		8.51	53.2	1	ug/L	SKS
4-Aminobiphenyl	03	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
4-Bromophenyl phenyl ether	03	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
4-Chloroaniline	03	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD	C	2.13	10.6	1	ug/L	SKS
4-Chlorophenyl phenyl ether	03	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
4-Nitroaniline	03	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	21.3	1	ug/L	SKS
4-Nitrophenol	03	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	53.2	1	ug/L	SKS
5-Nitro-o-toluidine	03	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	03	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Acenaphthene	03	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Acenaphthylene	03	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Acetophenone	03	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	21.3	1	ug/L	SKS
Anthracene	03	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		5.32	10.6	1	ug/L	SKS
Benzo (a) anthracene	03	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	03	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		0.11	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	03	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Benzo (g,h,i) perylene	03	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Benzo (k) fluoranthene	03	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		6.38	10.6	1	ug/L	SKS
Benzyl alcohol	03	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	21.3	1	ug/L	SKS
bis (2-Chloroethoxy) methane	03	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
bis (2-Chloroethyl) ether	03	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	03	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS



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Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	03	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		7.45	10.6	1	ug/L	SKS
Chlorobenzilate	03	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
Chrysene	03	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Diallate	03	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	03	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Dibenzofuran	03	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	5.32	1	ug/L	SKS
Diethyl phthalate	03	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
Dimethoate	03	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
Dimethyl phthalate	03	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
Di-n-butyl phthalate	03	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Di-n-octyl phthalate	03	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		8.51	10.6	1	ug/L	SKS
Diphenylamine	03	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Disulfoton	03	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
Ethyl methanesulfonate	03	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	21.3	1	ug/L	SKS
Ethyl parathion	03	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
Famphur	03	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD	C	2.66	2.66	1	ug/L	SKS
Fluoranthene	03	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		5.32	10.6	1	ug/L	SKS
Fluorene	03	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.26	10.6	1	ug/L	SKS
Hexachlorobenzene	03	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	03	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		4.79	10.6	1	ug/L	SKS
Hexachlorocyclopentadiene	03	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Hexachloroethane	03	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
Hexachloropropene	03	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	03	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Isophorone	03	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	10.6	1	ug/L	SKS
Isosafrole	03	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Kepon	03	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
m+p-Cresols	03	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Methapyrilene	03	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Methyl methanesulfonate	03	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Methyl parathion	03	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
Naphthalene	03	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
Nitrobenzene	03	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosodiethylamine	03	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	2.66	1	ug/L	SKS
n-Nitrosodimethylamine	03	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosodi-n-butylamine	03	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
n-Nitrosodi-n-propylamine	03	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.72	10.6	1	ug/L	SKS
n-Nitrosodiphenylamine	03	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosomethylethylamine	03	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
n-Nitrosopiperidine	03	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
n-Nitrosopyrrolidine	03	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	03	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD	C	2.13	10.6	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	03	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
o+m+p-Cresols	03	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
o-Cresol	03	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		8.51	10.6	1	ug/L	SKS
o-Toluidine	03	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	03	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	2.66	1	ug/L	SKS
p-Chloro-m-cresol	03	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		3.19	10.6	1	ug/L	SKS
Pentachlorobenzene	03	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	03	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	1.06	1	ug/L	SKS
Phenacetin	03	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		1.06	10.6	1	ug/L	SKS
Phenanthrene	03	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		5.32	10.6	1	ug/L	SKS
Phenol	03	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.66	10.6	1	ug/L	SKS
Phorate	03	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
p-Phenylenediamine	03	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Pronamide	03	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	10.6	1	ug/L	SKS
Pyrene	03	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		7.45	10.6	1	ug/L	SKS
Safrole	03	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 16:58	BLOD		2.13	2.66	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	03	72.7 %	10-86	05/05/2020 10:00	05/06/2020 16:58							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	03	50.3 %	9-87	05/05/2020 10:00	05/06/2020 16:58							
<i>Surr: 2-Fluorophenol (Surr)</i>	03	36.2 %	10-52	05/05/2020 10:00	05/06/2020 16:58							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	03	51.8 %	10-98.5	05/05/2020 10:00	05/06/2020 16:58							
<i>Surr: Phenol-d5 (Surr)</i>	03	21.2 %	5-33	05/05/2020 10:00	05/06/2020 16:58							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	03	50.7 %	27-133	05/05/2020 10:00	05/06/2020 16:58							



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Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	03	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.028	0.217	1	ug/L	LBH2
PCB as Aroclor 1221	03	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.022	0.217	1	ug/L	LBH2
PCB as Aroclor 1232	03	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.016	0.217	1	ug/L	LBH2
PCB as Aroclor 1242	03	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.045	0.217	1	ug/L	LBH2
PCB as Aroclor 1248	03	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.052	0.217	1	ug/L	LBH2
PCB as Aroclor 1254	03	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.038	0.217	1	ug/L	LBH2
PCB as Aroclor 1260	03	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.037	0.217	1	ug/L	LBH2
<i>Surr: DCB</i>	03	53.0 %	30-105	05/06/2020 09:50	05/07/2020 15:23							
<i>Surr: TCMX</i>	03	85.4 %	30-105	05/06/2020 09:50	05/07/2020 15:23							
4,4'-DDD	03	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
4,4'-DDE	03	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
4,4'-DDT	03	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Aldrin	03	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
alpha-BHC	03	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
alpha-Chlordane	03	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
beta-BHC	03	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.022	0.054	1	ug/L	LBH2
Chlordane	03	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.217	0.217	1	ug/L	LBH2
delta-BHC	03	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Dieldrin	03	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan I	03	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan II	03	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Endosulfan sulfate	03	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Endrin	03	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Endrin aldehyde	03	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2



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Client Sample ID: MW-2B

Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	03	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
gamma-BHC (Lindane)	03	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
gamma-Chlordane	03	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Heptachlor	03	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Heptachlor epoxide	03	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Methoxychlor	03	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.005	0.054	1	ug/L	LBH2
Toxaphene	03	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 15:23	BLOD		0.217	1.09	1	ug/L	LBH2
Surr: TCMX	03	85.4 %	18-112	05/06/2020 09:50	05/07/2020 15:23							
Surr: DCB	03	53.0 %	27-131	05/06/2020 09:50	05/07/2020 15:23							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	03	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 11:47	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	03	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 11:47	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	03	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 11:47	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	03	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 11:47	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	03	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 11:47	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	03	98.2 %	60-112	05/05/2020 14:20	05/12/2020 11:47							



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Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 17:01	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	03	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 17:01	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 17:01	BLOD		0.005	0.010	1	ug/L	LBH2



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Laboratory Sample ID: 20E0002-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	03	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD	CI	0.01	0.01	1	mg/L	JH
Sulfide	03	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	04	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:25	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	04	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:45	BLOD		0.50	1.0	1	ug/L	RCV
Barium	04	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:25	0.115		0.0050	0.0100	1	mg/L	SNL
Beryllium	04	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	04	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	04	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:45	2.64		0.200	1.00	1	ug/L	RCV
Chromium	04	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	04	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:25	BLOD		0.0080	0.0100	1	mg/L	SNL
Mercury	04	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:58	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	04	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0070	0.0100	1	mg/L	SNL
Lead	04	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:45	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	04	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:45	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	04	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	04	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	04	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:45	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	04	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:25	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	04	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:26	BLOD		0.0100	0.0100	1	mg/L	SNL



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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	04	75-34-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	04	563-58-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	04	120-82-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	541-73-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	142-28-9	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	04	106-46-7	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	04	594-20-7	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	04	75-05-8	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	04	107-02-8	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	04	107-05-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	1.00	1	ug/L	KCS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	04	71-43-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	04	108-90-7	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	04	75-00-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	04	126-99-8	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	04	156-59-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	04	97-63-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	04	78-83-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	04	126-98-7	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.00	1.50	1	ug/L	KCS



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Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	04	80-62-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	04	107-12-0	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	04	100-42-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260D	05/01/2020 17:42	05/01/2020 17:42	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	04	91.1 %	70-120	05/01/2020 17:42	05/01/2020 17:42							
Surr: 4-Bromofluorobenzene (Surr)	04	91.2 %	75-120	05/01/2020 17:42	05/01/2020 17:42							
Surr: Dibromofluoromethane (Surr)	04	97.9 %	70-130	05/01/2020 17:42	05/01/2020 17:42							
Surr: Toluene-d8 (Surr)	04	98.4 %	70-130	05/01/2020 17:42	05/01/2020 17:42							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
1,3,5-Trinitrobenzene	04	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	5.26	1	ug/L	SKS
1,3-Dinitrobenzene	04	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
1,4-Naphthoquinone	04	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
1-Naphthylamine	04	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	04	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
2,4,5-Trichlorophenol	04	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
2,4,6-Trichlorophenol	04	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
2,4-Dichlorophenol	04	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
2,4-Dimethylphenol	04	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		0.53	0.53	1	ug/L	SKS
2,4-Dinitrophenol	04	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		8.42	52.6	1	ug/L	SKS
2,4-Dinitrotoluene	04	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	10.5	1	ug/L	SKS
2,6-Dichlorophenol	04	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD	C	1.05	10.5	1	ug/L	SKS
2,6-Dinitrotoluene	04	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
2-Acetylaminofluorene	04	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
2-Chloronaphthalene	04	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.74	10.5	1	ug/L	SKS
2-Chlorophenol	04	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
2-Methylnaphthalene	04	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
2-Naphthylamine	04	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
2-Nitroaniline	04	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	21.1	1	ug/L	SKS
2-Nitrophenol	04	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
3,3'-Dichlorobenzidine	04	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
3,3'-Dimethylbenzidine	04	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
3-Methylcholanthrene	04	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	04	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	21.1	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	04	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		8.42	52.6	1	ug/L	SKS
4-Aminobiphenyl	04	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
4-Bromophenyl phenyl ether	04	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
4-Chloroaniline	04	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD	C	2.11	10.5	1	ug/L	SKS
4-Chlorophenyl phenyl ether	04	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
4-Nitroaniline	04	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	21.1	1	ug/L	SKS
4-Nitrophenol	04	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	52.6	1	ug/L	SKS
5-Nitro-o-toluidine	04	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	04	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Acenaphthene	04	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Acenaphthylene	04	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Acetophenone	04	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	21.1	1	ug/L	SKS
Anthracene	04	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		5.26	10.5	1	ug/L	SKS
Benzo (a) anthracene	04	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	04	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		0.11	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	04	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Benzo (g,h,i) perylene	04	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Benzo (k) fluoranthene	04	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		6.32	10.5	1	ug/L	SKS
Benzyl alcohol	04	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	21.1	1	ug/L	SKS
bis (2-Chloroethoxy) methane	04	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
bis (2-Chloroethyl) ether	04	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	04	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS



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Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	04	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		7.37	10.5	1	ug/L	SKS
Chlorobenzilate	04	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
Chrysene	04	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Diallate	04	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
Dibenz (a,h) anthracene	04	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Dibenzofuran	04	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	5.26	1	ug/L	SKS
Diethyl phthalate	04	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
Dimethoate	04	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
Dimethyl phthalate	04	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
Di-n-butyl phthalate	04	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Di-n-octyl phthalate	04	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		8.42	10.5	1	ug/L	SKS
Diphenylamine	04	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Disulfoton	04	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
Ethyl methanesulfonate	04	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	21.1	1	ug/L	SKS
Ethyl parathion	04	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
Famphur	04	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD	C	2.63	2.63	1	ug/L	SKS
Fluoranthene	04	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		5.26	10.5	1	ug/L	SKS
Fluorene	04	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.21	10.5	1	ug/L	SKS
Hexachlorobenzene	04	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	04	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		4.74	10.5	1	ug/L	SKS
Hexachlorocyclopentadiene	04	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Hexachloroethane	04	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
Hexachloropropene	04	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	04	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Isophorone	04	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	10.5	1	ug/L	SKS
Isosafrole	04	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Kepon	04	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
m+p-Cresols	04	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Methapyrilene	04	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Methyl methanesulfonate	04	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Methyl parathion	04	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
Naphthalene	04	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
Nitrobenzene	04	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
n-Nitrosodiethylamine	04	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	2.63	1	ug/L	SKS
n-Nitrosodimethylamine	04	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
n-Nitrosodi-n-butylamine	04	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
n-Nitrosodi-n-propylamine	04	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.68	10.5	1	ug/L	SKS
n-Nitrosodiphenylamine	04	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
n-Nitrosomethylethylamine	04	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
n-Nitrosopiperidine	04	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
n-Nitrosopyrrolidine	04	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	04	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD	C	2.11	10.5	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	04	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
o+m+p-Cresols	04	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
o-Cresol	04	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		8.42	10.5	1	ug/L	SKS
o-Toluidine	04	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-3A

Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	04	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	2.63	1	ug/L	SKS
p-Chloro-m-cresol	04	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		3.16	10.5	1	ug/L	SKS
Pentachlorobenzene	04	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	04	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	1.05	1	ug/L	SKS
Phenacetin	04	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		1.05	10.5	1	ug/L	SKS
Phenanthrene	04	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		5.26	10.5	1	ug/L	SKS
Phenol	04	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.63	10.5	1	ug/L	SKS
Phorate	04	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
p-Phenylenediamine	04	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Pronamide	04	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	10.5	1	ug/L	SKS
Pyrene	04	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		7.37	10.5	1	ug/L	SKS
Safrole	04	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 17:30	BLOD		2.11	2.63	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	04	51.1 %	10-86	05/05/2020 10:00	05/06/2020 17:30							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	04	52.6 %	9-87	05/05/2020 10:00	05/06/2020 17:30							
<i>Surr: 2-Fluorophenol (Surr)</i>	04	36.8 %	10-52	05/05/2020 10:00	05/06/2020 17:30							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	04	52.1 %	10-98.5	05/05/2020 10:00	05/06/2020 17:30							
<i>Surr: Phenol-d5 (Surr)</i>	04	21.3 %	5-33	05/05/2020 10:00	05/06/2020 17:30							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	04	59.1 %	27-133	05/05/2020 10:00	05/06/2020 17:30							



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Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	04	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.028	0.213	1	ug/L	LBH2
PCB as Aroclor 1221	04	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.021	0.213	1	ug/L	LBH2
PCB as Aroclor 1232	04	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.016	0.213	1	ug/L	LBH2
PCB as Aroclor 1242	04	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.044	0.213	1	ug/L	LBH2
PCB as Aroclor 1248	04	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.051	0.213	1	ug/L	LBH2
PCB as Aroclor 1254	04	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.037	0.213	1	ug/L	LBH2
PCB as Aroclor 1260	04	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.036	0.213	1	ug/L	LBH2
<i>Surr: DCB</i>	04	63.2 %	30-105	05/06/2020 09:50	05/07/2020 15:41							
<i>Surr: TCMX</i>	04	41.5 %	30-105	05/06/2020 09:50	05/07/2020 15:41							
4,4'-DDD	04	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDE	04	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDT	04	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Aldrin	04	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-BHC	04	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-Chlordane	04	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
beta-BHC	04	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.021	0.053	1	ug/L	LBH2
Chlordane	04	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.213	0.213	1	ug/L	LBH2
delta-BHC	04	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Dieldrin	04	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan I	04	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan II	04	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan sulfate	04	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin	04	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin aldehyde	04	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2



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Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	04	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-BHC (Lindane)	04	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-Chlordane	04	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor	04	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor epoxide	04	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Methoxychlor	04	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.005	0.053	1	ug/L	LBH2
Toxaphene	04	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 15:41	BLOD		0.213	1.06	1	ug/L	LBH2
Surr: TCMX	04	59.5 %	18-112	05/06/2020 09:50	05/07/2020 15:41							
Surr: DCB	04	63.2 %	27-131	05/06/2020 09:50	05/07/2020 15:41							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	04	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 12:13	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	04	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 12:13	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	04	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 12:13	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	04	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 12:13	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	04	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 12:13	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	04	96.4 %	60-112	05/05/2020 14:20	05/12/2020 12:13							



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Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 17:23	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	04	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 17:23	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 17:23	BLOD		0.005	0.010	1	ug/L	LBH2



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Laboratory Sample ID: 20E0002-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	04	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD		0.01	0.01	1	mg/L	JH
Sulfide	04	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	05	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:27	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	05	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:47	0.51	J	0.50	1.0	1	ug/L	RCV
Barium	05	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:28	0.0575		0.0050	0.0100	1	mg/L	SNL
Beryllium	05	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:27	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	05	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:28	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	05	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:47	15.0		0.200	1.00	1	ug/L	RCV
Chromium	05	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:28	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	05	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:27	BLOD		0.0080	0.0100	1	mg/L	SNL
Mercury	05	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 14:00	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	05	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:28	0.0081	J	0.0070	0.0100	1	mg/L	SNL
Lead	05	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:47	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	05	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:47	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	05	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:28	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	05	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:28	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	05	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:47	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	05	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:27	0.0107		0.0080	0.0100	1	mg/L	SNL
Zinc	05	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:28	BLOD		0.0100	0.0100	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	1.07		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	05	563-58-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	05	120-82-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	541-73-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	142-28-9	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260D	05/01/2020 18:04	05/01/2020 18:04	5.29		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	05	594-20-7	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	05	75-05-8	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	05	107-02-8	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	05	107-05-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	05	71-43-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	0.62	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260D	05/01/2020 18:04	05/01/2020 18:04	2.68		0.40	1.00	1	ug/L	KCS
Chloroethane	05	75-00-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	05	126-99-8	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	1.04		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	05	97-63-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	78-83-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	05	126-98-7	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.00	1.50	1	ug/L	KCS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	05	80-62-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	05	107-12-0	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	05	100-42-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	05	1330-20-7	SW8260D	05/01/2020 18:04	05/01/2020 18:04	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>05</i>	<i>96.5 %</i>	<i>70-120</i>	<i>05/01/2020 18:04</i>	<i>05/01/2020 18:04</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>05</i>	<i>91.3 %</i>	<i>75-120</i>	<i>05/01/2020 18:04</i>	<i>05/01/2020 18:04</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>05</i>	<i>97.2 %</i>	<i>70-130</i>	<i>05/01/2020 18:04</i>	<i>05/01/2020 18:04</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>05</i>	<i>99.2 %</i>	<i>70-130</i>	<i>05/01/2020 18:04</i>	<i>05/01/2020 18:04</i>							



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Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	05	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
1,3,5-Trinitrobenzene	05	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	5.32	1	ug/L	SKS
1,3-Dinitrobenzene	05	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
1,4-Naphthoquinone	05	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
1-Naphthylamine	05	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	05	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
2,4,5-Trichlorophenol	05	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
2,4,6-Trichlorophenol	05	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
2,4-Dichlorophenol	05	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
2,4-Dimethylphenol	05	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		0.53	0.53	1	ug/L	SKS
2,4-Dinitrophenol	05	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		8.51	53.2	1	ug/L	SKS
2,4-Dinitrotoluene	05	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	10.6	1	ug/L	SKS
2,6-Dichlorophenol	05	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD	C	1.06	10.6	1	ug/L	SKS
2,6-Dinitrotoluene	05	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
2-Acetylaminofluorene	05	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
2-Chloronaphthalene	05	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.79	10.6	1	ug/L	SKS
2-Chlorophenol	05	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
2-Methylnaphthalene	05	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
2-Naphthylamine	05	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
2-Nitroaniline	05	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	21.3	1	ug/L	SKS
2-Nitrophenol	05	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
3,3'-Dichlorobenzidine	05	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
3,3'-Dimethylbenzidine	05	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
3-Methylcholanthrene	05	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS



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Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	05	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	21.3	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	05	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		8.51	53.2	1	ug/L	SKS
4-Aminobiphenyl	05	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
4-Bromophenyl phenyl ether	05	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
4-Chloroaniline	05	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD	C	2.13	10.6	1	ug/L	SKS
4-Chlorophenyl phenyl ether	05	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
4-Nitroaniline	05	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	21.3	1	ug/L	SKS
4-Nitrophenol	05	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	53.2	1	ug/L	SKS
5-Nitro-o-toluidine	05	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	05	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Acenaphthene	05	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Acenaphthylene	05	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Acetophenone	05	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	21.3	1	ug/L	SKS
Anthracene	05	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		5.32	10.6	1	ug/L	SKS
Benzo (a) anthracene	05	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	05	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		0.11	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	05	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Benzo (g,h,i) perylene	05	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Benzo (k) fluoranthene	05	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		6.38	10.6	1	ug/L	SKS
Benzyl alcohol	05	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	21.3	1	ug/L	SKS
bis (2-Chloroethoxy) methane	05	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
bis (2-Chloroethyl) ether	05	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	05	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	05	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		7.45	10.6	1	ug/L	SKS
Chlorobenzilate	05	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
Chrysene	05	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Diallate	05	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
Dibenz (a,h) anthracene	05	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Dibenzofuran	05	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	5.32	1	ug/L	SKS
Diethyl phthalate	05	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
Dimethoate	05	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
Dimethyl phthalate	05	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
Di-n-butyl phthalate	05	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Di-n-octyl phthalate	05	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		8.51	10.6	1	ug/L	SKS
Diphenylamine	05	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Disulfoton	05	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
Ethyl methanesulfonate	05	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	21.3	1	ug/L	SKS
Ethyl parathion	05	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
Famphur	05	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD	C	2.66	2.66	1	ug/L	SKS
Fluoranthene	05	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		5.32	10.6	1	ug/L	SKS
Fluorene	05	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.26	10.6	1	ug/L	SKS
Hexachlorobenzene	05	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	05	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		4.79	10.6	1	ug/L	SKS
Hexachlorocyclopentadiene	05	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Hexachloroethane	05	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
Hexachloropropene	05	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-4

Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	05	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Isophorone	05	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	10.6	1	ug/L	SKS
Isosafrole	05	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Kepon	05	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
m+p-Cresols	05	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Methapyrilene	05	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Methyl methanesulfonate	05	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Methyl parathion	05	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
Naphthalene	05	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
Nitrobenzene	05	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosodiethylamine	05	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	2.66	1	ug/L	SKS
n-Nitrosodimethylamine	05	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosodi-n-butylamine	05	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
n-Nitrosodi-n-propylamine	05	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.72	10.6	1	ug/L	SKS
n-Nitrosodiphenylamine	05	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
n-Nitrosomethylethylamine	05	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
n-Nitrosopiperidine	05	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
n-Nitrosopyrrolidine	05	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	05	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD	C	2.13	10.6	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	05	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
o+m+p-Cresols	05	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
o-Cresol	05	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		8.51	10.6	1	ug/L	SKS
o-Toluidine	05	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS



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Laboratory Sample ID: 20E0002-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	05	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	2.66	1	ug/L	SKS
p-Chloro-m-cresol	05	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		3.19	10.6	1	ug/L	SKS
Pentachlorobenzene	05	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	05	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	1.06	1	ug/L	SKS
Phenacetin	05	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		1.06	10.6	1	ug/L	SKS
Phenanthrene	05	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		5.32	10.6	1	ug/L	SKS
Phenol	05	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.66	10.6	1	ug/L	SKS
Phorate	05	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
p-Phenylenediamine	05	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Pronamide	05	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	10.6	1	ug/L	SKS
Pyrene	05	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		7.45	10.6	1	ug/L	SKS
Safrole	05	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 18:03	BLOD		2.13	2.66	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	05	53.6 %	10-86	05/05/2020 10:00	05/06/2020 18:03							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	05	52.1 %	9-87	05/05/2020 10:00	05/06/2020 18:03							
<i>Surr: 2-Fluorophenol (Surr)</i>	05	38.4 %	10-52	05/05/2020 10:00	05/06/2020 18:03							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	05	51.8 %	10-98.5	05/05/2020 10:00	05/06/2020 18:03							
<i>Surr: Phenol-d5 (Surr)</i>	05	21.6 %	5-33	05/05/2020 10:00	05/06/2020 18:03							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	05	45.9 %	27-133	05/05/2020 10:00	05/06/2020 18:03							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	05	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.028	0.213	1	ug/L	LBH2
PCB as Aroclor 1221	05	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.021	0.213	1	ug/L	LBH2
PCB as Aroclor 1232	05	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.016	0.213	1	ug/L	LBH2
PCB as Aroclor 1242	05	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.044	0.213	1	ug/L	LBH2
PCB as Aroclor 1248	05	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.051	0.213	1	ug/L	LBH2
PCB as Aroclor 1254	05	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.037	0.213	1	ug/L	LBH2
PCB as Aroclor 1260	05	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.036	0.213	1	ug/L	LBH2
<i>Surr: DCB</i>	<i>05</i>	<i>58.3 %</i>	<i>30-105</i>	<i>05/06/2020 09:50</i>	<i>05/07/2020 16:00</i>							
<i>Surr: TCMX</i>	<i>05</i>	<i>75.7 %</i>	<i>30-105</i>	<i>05/06/2020 09:50</i>	<i>05/07/2020 16:00</i>							
4,4'-DDD	05	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDE	05	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDT	05	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Aldrin	05	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-BHC	05	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-Chlordane	05	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
beta-BHC	05	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.021	0.053	1	ug/L	LBH2
Chlordane	05	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.213	0.213	1	ug/L	LBH2
delta-BHC	05	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Dieldrin	05	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan I	05	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan II	05	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan sulfate	05	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin	05	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin aldehyde	05	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	05	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-BHC (Lindane)	05	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-Chlordane	05	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor	05	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor epoxide	05	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Methoxychlor	05	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.005	0.053	1	ug/L	LBH2
Toxaphene	05	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 16:00	BLOD		0.213	1.06	1	ug/L	LBH2
Surr: TCMX	05	79.3 %	18-112	05/06/2020 09:50	05/07/2020 16:00							
Surr: DCB	05	63.8 %	27-131	05/06/2020 09:50	05/07/2020 16:00							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	05	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 12:38	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	05	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 12:38	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	05	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 12:38	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	05	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 12:38	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	05	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 12:38	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	05	86.6 %	60-112	05/05/2020 14:20	05/12/2020 12:38							



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Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 18:06	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	05	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 18:06	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 18:06	BLOD		0.005	0.010	1	ug/L	LBH2



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	05	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD	CI	0.01	0.01	1	mg/L	JH
Sulfide	05	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	06	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:29	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	06	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:49	BLOD		0.50	1.0	1	ug/L	RCV
Barium	06	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:30	0.0108		0.0050	0.0100	1	mg/L	SNL
Beryllium	06	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	06	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	06	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:49	BLOD		0.200	1.00	1	ug/L	RCV
Chromium	06	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	06	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:29	BLOD		0.0080	0.0100	1	mg/L	SNL
Mercury	06	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 14:02	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	06	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0070	0.0100	1	mg/L	SNL
Lead	06	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:49	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	06	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:49	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	06	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	06	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	06	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:49	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	06	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:29	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	06	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:30	BLOD		0.0100	0.0100	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	06	71-55-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	75-34-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	06	563-58-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	06	96-18-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	06	120-82-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	95-50-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	107-06-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	06	541-73-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	06	142-28-9	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	06	594-20-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	06	78-93-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	06	591-78-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	06	75-05-8	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	06	107-02-8	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	06	107-05-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	06	71-43-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	06	75-25-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	06	108-90-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	06	75-00-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	06	126-99-8	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-59-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	06	124-48-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	06	74-95-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-8	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	06	97-63-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	06	74-88-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	06	78-83-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	06	179601-23-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	06	126-98-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.00	1.50	1	ug/L	KCS



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	06	80-62-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	06	95-47-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	06	107-12-0	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	06	100-42-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	06	127-18-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	06	108-88-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	156-60-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10061-02-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	06	79-01-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	75-69-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	06	108-05-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	06	75-01-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	06	1330-20-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	06	93.0 %	70-120	05/01/2020 18:27	05/01/2020 18:27							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	06	92.4 %	75-120	05/01/2020 18:27	05/01/2020 18:27							
<i>Surr: Dibromofluoromethane (Surr)</i>	06	97.5 %	70-130	05/01/2020 18:27	05/01/2020 18:27							
<i>Surr: Toluene-d8 (Surr)</i>	06	99.7 %	70-130	05/01/2020 18:27	05/01/2020 18:27							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	06	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
1,3,5-Trinitrobenzene	06	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	5.38	1	ug/L	SKS
1,3-Dinitrobenzene	06	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
1,4-Naphthoquinone	06	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
1-Naphthylamine	06	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	06	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
2,4,5-Trichlorophenol	06	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
2,4,6-Trichlorophenol	06	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
2,4-Dichlorophenol	06	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
2,4-Dimethylphenol	06	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	06	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		8.60	53.8	1	ug/L	SKS
2,4-Dinitrotoluene	06	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	10.8	1	ug/L	SKS
2,6-Dichlorophenol	06	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD	C	1.08	10.8	1	ug/L	SKS
2,6-Dinitrotoluene	06	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
2-Acetylaminofluorene	06	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
2-Chloronaphthalene	06	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.84	10.8	1	ug/L	SKS
2-Chlorophenol	06	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
2-Methylnaphthalene	06	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
2-Naphthylamine	06	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
2-Nitroaniline	06	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	21.5	1	ug/L	SKS
2-Nitrophenol	06	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
3,3'-Dichlorobenzidine	06	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
3,3'-Dimethylbenzidine	06	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
3-Methylcholanthrene	06	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS



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Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	06	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	21.5	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	06	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		8.60	53.8	1	ug/L	SKS
4-Aminobiphenyl	06	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
4-Bromophenyl phenyl ether	06	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
4-Chloroaniline	06	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD	C	2.15	10.8	1	ug/L	SKS
4-Chlorophenyl phenyl ether	06	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
4-Nitroaniline	06	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	21.5	1	ug/L	SKS
4-Nitrophenol	06	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	53.8	1	ug/L	SKS
5-Nitro-o-toluidine	06	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	06	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Acenaphthene	06	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Acenaphthylene	06	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Acetophenone	06	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	21.5	1	ug/L	SKS
Anthracene	06	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		5.38	10.8	1	ug/L	SKS
Benzo (a) anthracene	06	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	06	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		0.11	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	06	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Benzo (g,h,i) perylene	06	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Benzo (k) fluoranthene	06	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		6.45	10.8	1	ug/L	SKS
Benzyl alcohol	06	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	21.5	1	ug/L	SKS
bis (2-Chloroethoxy) methane	06	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
bis (2-Chloroethyl) ether	06	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	06	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Butyl benzyl phthalate	06	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		7.53	10.8	1	ug/L	SKS
Chlorobenzilate	06	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
Chrysene	06	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Diallate	06	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
Dibenz (a,h) anthracene	06	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Dibenzofuran	06	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	5.38	1	ug/L	SKS
Diethyl phthalate	06	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
Dimethoate	06	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
Dimethyl phthalate	06	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
Di-n-butyl phthalate	06	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Di-n-octyl phthalate	06	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		8.60	10.8	1	ug/L	SKS
Diphenylamine	06	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Disulfoton	06	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
Ethyl methanesulfonate	06	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	21.5	1	ug/L	SKS
Ethyl parathion	06	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
Famphur	06	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD	C	2.69	2.69	1	ug/L	SKS
Fluoranthene	06	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		5.38	10.8	1	ug/L	SKS
Fluorene	06	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.30	10.8	1	ug/L	SKS
Hexachlorobenzene	06	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	06	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		4.84	10.8	1	ug/L	SKS
Hexachlorocyclopentadiene	06	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Hexachloroethane	06	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
Hexachloropropene	06	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	06	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Isodrin	06	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Isophorone	06	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	10.8	1	ug/L	SKS
Isosafrole	06	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Kepon	06	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
m+p-Cresols	06	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Methapyrilene	06	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Methyl methanesulfonate	06	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Methyl parathion	06	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
Naphthalene	06	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
Nitrobenzene	06	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
n-Nitrosodiethylamine	06	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	2.69	1	ug/L	SKS
n-Nitrosodimethylamine	06	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
n-Nitrosodi-n-butylamine	06	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
n-Nitrosodi-n-propylamine	06	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.76	10.8	1	ug/L	SKS
n-Nitrosodiphenylamine	06	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
n-Nitrosomethylethylamine	06	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
n-Nitrosopiperidine	06	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
n-Nitrosopyrrolidine	06	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	06	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD	C	2.15	10.8	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	06	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
o+m+p-Cresols	06	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
o-Cresol	06	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		8.60	10.8	1	ug/L	SKS
o-Toluidine	06	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	06	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	2.69	1	ug/L	SKS
p-Chloro-m-cresol	06	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		3.23	10.8	1	ug/L	SKS
Pentachlorobenzene	06	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	06	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	1.08	1	ug/L	SKS
Phenacetin	06	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		1.08	10.8	1	ug/L	SKS
Phenanthrene	06	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		5.38	10.8	1	ug/L	SKS
Phenol	06	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.69	10.8	1	ug/L	SKS
Phorate	06	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
p-Phenylenediamine	06	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Pronamide	06	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	10.8	1	ug/L	SKS
Pyrene	06	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		7.53	10.8	1	ug/L	SKS
Safrole	06	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 18:36	BLOD		2.15	2.69	1	ug/L	SKS
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	06	88.4 %	10-86	05/05/2020 10:00	05/06/2020 18:36							S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	06	51.6 %	9-87	05/05/2020 10:00	05/06/2020 18:36							
<i>Surr: 2-Fluorophenol (Surr)</i>	06	37.2 %	10-52	05/05/2020 10:00	05/06/2020 18:36							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	06	54.2 %	10-98.5	05/05/2020 10:00	05/06/2020 18:36							
<i>Surr: Phenol-d5 (Surr)</i>	06	22.4 %	5-33	05/05/2020 10:00	05/06/2020 18:36							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	06	64.5 %	27-133	05/05/2020 10:00	05/06/2020 18:36							



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Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	06	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.028	0.213	1	ug/L	LBH2
PCB as Aroclor 1221	06	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.021	0.213	1	ug/L	LBH2
PCB as Aroclor 1232	06	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.016	0.213	1	ug/L	LBH2
PCB as Aroclor 1242	06	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.044	0.213	1	ug/L	LBH2
PCB as Aroclor 1248	06	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.051	0.213	1	ug/L	LBH2
PCB as Aroclor 1254	06	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.037	0.213	1	ug/L	LBH2
PCB as Aroclor 1260	06	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.036	0.213	1	ug/L	LBH2
<i>Surr: DCB</i>	06	28.5 %	30-105	05/06/2020 09:50	05/07/2020 16:19							S
<i>Surr: TCMX</i>	06	36.7 %	30-105	05/06/2020 09:50	05/07/2020 16:19							
4,4'-DDD	06	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDE	06	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDT	06	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Aldrin	06	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-BHC	06	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-Chlordane	06	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
beta-BHC	06	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.021	0.053	1	ug/L	LBH2
Chlordane	06	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.213	0.213	1	ug/L	LBH2
delta-BHC	06	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Dieldrin	06	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan I	06	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan II	06	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan sulfate	06	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin	06	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin aldehyde	06	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2



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Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	06	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-BHC (Lindane)	06	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-Chlordane	06	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 16:19	0.028	J	0.005	0.053	1	ug/L	LBH2
Heptachlor	06	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor epoxide	06	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Methoxychlor	06	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.005	0.053	1	ug/L	LBH2
Toxaphene	06	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 16:19	BLOD		0.213	1.06	1	ug/L	LBH2
<i>Surr: TCMX</i>	06	52.8 %	18-112	05/06/2020 09:50	05/07/2020 16:19							
<i>Surr: DCB</i>	06	28.5 %	27-131	05/06/2020 09:50	05/07/2020 16:19							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Herbicides by GC/ECD												
2,4,5-T	06	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 13:03	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	06	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 13:03	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	06	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 13:03	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	06	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 13:03	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	06	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 13:03	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	06	96.8 %	60-112	05/05/2020 14:20	05/12/2020 13:03							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 18:28	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	06	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 18:28	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 18:28	BLOD		0.005	0.010	1	ug/L	LBH2



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Client Sample ID: MW-20

Laboratory Sample ID: 20E0002-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Cyanide	06	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD		0.01	0.01	1	mg/L	JH
Sulfide	06	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Client Sample ID: Field Blank

Laboratory Sample ID: 20E0002-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Silver	07	7440-22-4	SW6010C	05/01/2020 14:00	05/04/2020 15:31	BLOD		0.0050	0.0100	1	mg/L	SNL
Arsenic	07	7440-38-2	SW6020A	05/01/2020 14:00	05/04/2020 15:51	BLOD		0.50	1.0	1	ug/L	RCV
Barium	07	7440-39-3	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0050	0.0100	1	mg/L	SNL
Beryllium	07	7440-41-7	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0020	0.0040	1	mg/L	SNL
Cadmium	07	7440-43-9	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0020	0.0040	1	mg/L	SNL
Cobalt	07	7440-48-4	SW6020A	05/01/2020 14:00	05/04/2020 15:51	BLOD		0.200	1.00	1	ug/L	RCV
Chromium	07	7440-47-3	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0080	0.0100	1	mg/L	SNL
Copper	07	7440-50-8	SW6010C	05/01/2020 14:00	05/04/2020 15:31	BLOD		0.0080	0.0100	1	mg/L	SNL
Mercury	07	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 14:04	BLOD		0.00020	0.00020	1	mg/L	MWL
Nickel	07	7440-02-0	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0070	0.0100	1	mg/L	SNL
Lead	07	7439-92-1	SW6020A	05/01/2020 14:00	05/04/2020 15:51	BLOD		1.00	1.00	1	ug/L	RCV
Antimony	07	7440-36-0	SW6020A	05/01/2020 14:00	05/04/2020 15:51	BLOD		1.00	1.00	1	ug/L	RCV
Selenium	07	7782-49-2	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0400	0.0500	1	mg/L	SNL
Tin	07	7440-31-5	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0200	0.0200	1	mg/L	SNL
Thallium	07	7440-28-0	SW6020A	05/01/2020 14:00	05/04/2020 15:51	BLOD		1.00	1.00	1	ug/L	RCV
Vanadium	07	7440-62-2	SW6010C	05/01/2020 14:00	05/04/2020 15:31	BLOD		0.0080	0.0100	1	mg/L	SNL
Zinc	07	7440-66-6	SW6010C	05/01/2020 14:00	05/04/2020 15:32	BLOD		0.0100	0.0100	1	mg/L	SNL



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Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Field Blank

Laboratory Sample ID: 20E0002-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	75-34-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-35-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	07	563-58-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	07	96-18-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	07	120-82-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	95-50-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	78-87-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	07	541-73-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	07	142-28-9	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	07	594-20-7	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	07	78-93-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	07	591-78-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	07	75-05-8	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	07	107-02-8	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	07	107-05-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	1.00	1	ug/L	KCS



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Benzene	07	71-43-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	07	75-25-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	07	75-00-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	07	126-99-8	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	07	156-59-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	10061-01-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	07	124-48-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	07	74-95-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	07	97-63-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.70	5.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	07	74-88-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.70	10.0	1	ug/L	KCS
Isobutyl Alcohol	07	78-83-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		25.0	40.0	1	ug/L	KCS
m+p-Xylenes	07	179601-23-1	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	07	126-98-7	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.00	1.50	1	ug/L	KCS



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Methyl methacrylate	07	80-62-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.70	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	07	107-12-0	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	07	100-42-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-3	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-60-5	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-69-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	07	1330-20-7	SW8260D	05/01/2020 13:15	05/01/2020 13:15	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	07	107 %	70-120	05/01/2020 13:15	05/01/2020 13:15							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	07	88.2 %	75-120	05/01/2020 13:15	05/01/2020 13:15							
<i>Surr: Dibromofluoromethane (Surr)</i>	07	110 %	70-130	05/01/2020 13:15	05/01/2020 13:15							
<i>Surr: Toluene-d8 (Surr)</i>	07	101 %	70-130	05/01/2020 13:15	05/01/2020 13:15							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
1,2,4,5-Tetrachlorobenzene	07	95-94-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
1,3,5-Trinitrobenzene	07	99-35-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	5.43	1	ug/L	SKS
1,3-Dinitrobenzene	07	99-65-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
1,4-Naphthoquinone	07	130-15-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
1-Naphthylamine	07	134-32-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
2,3,4,6-Tetrachlorophenol	07	58-90-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
2,4,5-Trichlorophenol	07	95-95-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
2,4,6-Trichlorophenol	07	88-06-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
2,4-Dichlorophenol	07	120-83-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
2,4-Dimethylphenol	07	105-67-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		0.54	0.54	1	ug/L	SKS
2,4-Dinitrophenol	07	51-28-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		8.70	54.3	1	ug/L	SKS
2,4-Dinitrotoluene	07	121-14-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	10.9	1	ug/L	SKS
2,6-Dichlorophenol	07	87-65-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD	C	1.09	10.9	1	ug/L	SKS
2,6-Dinitrotoluene	07	606-20-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
2-Acetylaminofluorene	07	53-96-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
2-Chloronaphthalene	07	91-58-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.89	10.9	1	ug/L	SKS
2-Chlorophenol	07	95-57-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
2-Methylnaphthalene	07	91-57-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
2-Naphthylamine	07	91-59-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
2-Nitroaniline	07	88-74-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	21.7	1	ug/L	SKS
2-Nitrophenol	07	88-75-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
3,3'-Dichlorobenzidine	07	91-94-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
3,3'-Dimethylbenzidine	07	119-93-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
3-Methylcholanthrene	07	56-49-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS



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Semivolatile Organic Compounds by GCMS												
3-Nitroaniline	07	99-09-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	21.7	1	ug/L	SKS
4,6-Dinitro-2-methylphenol	07	534-52-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		8.70	54.3	1	ug/L	SKS
4-Aminobiphenyl	07	92-67-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
4-Bromophenyl phenyl ether	07	101-55-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
4-Chloroaniline	07	106-47-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD	C	2.17	10.9	1	ug/L	SKS
4-Chlorophenyl phenyl ether	07	7005-72-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
4-Nitroaniline	07	100-01-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	21.7	1	ug/L	SKS
4-Nitrophenol	07	100-02-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	54.3	1	ug/L	SKS
5-Nitro-o-toluidine	07	99-55-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
7,12-Dimethylbenz (a) anthracene	07	57-97-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Acenaphthene	07	83-32-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Acenaphthylene	07	208-96-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Acetophenone	07	98-86-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	21.7	1	ug/L	SKS
Anthracene	07	120-12-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		5.43	10.9	1	ug/L	SKS
Benzo (a) anthracene	07	56-55-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		0.05	0.05	1	ug/L	SKS
Benzo (a) pyrene	07	50-32-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		0.11	0.11	1	ug/L	SKS
Benzo (b) fluoranthene	07	205-99-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Benzo (g,h,i) perylene	07	191-24-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Benzo (k) fluoranthene	07	207-08-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		6.52	10.9	1	ug/L	SKS
Benzyl alcohol	07	100-51-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	21.7	1	ug/L	SKS
bis (2-Chloroethoxy) methane	07	111-91-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
bis (2-Chloroethyl) ether	07	111-44-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
2,2'-Oxybis (1-chloropropane)	07	108-60-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
bis (2-Ethylhexyl) phthalate	07	117-81-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Client Sample ID: Field Blank

Laboratory Sample ID: 20E0002-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatle Organic Compounds by GCMS												
Butyl benzyl phthalate	07	85-68-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		7.61	10.9	1	ug/L	SKS
Chlorobenzilate	07	510-15-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
Chrysene	07	218-01-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Diallate	07	2303-16-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
Dibenz (a,h) anthracene	07	53-70-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Dibenzofuran	07	132-64-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	5.43	1	ug/L	SKS
Diethyl phthalate	07	84-66-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
Dimethoate	07	60-51-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
Dimethyl phthalate	07	131-11-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
Di-n-butyl phthalate	07	84-74-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Di-n-octyl phthalate	07	117-84-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		8.70	10.9	1	ug/L	SKS
Diphenylamine	07	122-39-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Disulfoton	07	298-04-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
Ethyl methanesulfonate	07	62-50-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	21.7	1	ug/L	SKS
Ethyl parathion	07	56-38-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
Famphur	07	52-85-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD	C	2.72	2.72	1	ug/L	SKS
Fluoranthene	07	206-44-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		5.43	10.9	1	ug/L	SKS
Fluorene	07	86-73-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.35	10.9	1	ug/L	SKS
Hexachlorobenzene	07	118-74-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		0.05	0.05	1	ug/L	SKS
Hexachlorobutadiene	07	87-68-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		4.89	10.9	1	ug/L	SKS
Hexachlorocyclopentadiene	07	77-47-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Hexachloroethane	07	67-72-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
Hexachloropropene	07	1888-71-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
Indeno (1,2,3-cd) pyrene	07	193-39-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS



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Laboratory Sample ID: 20E0002-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
Isodrin	07	465-73-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Isophorone	07	78-59-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	10.9	1	ug/L	SKS
Isosafrole	07	120-58-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Kepon	07	143-50-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
m+p-Cresols	07	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Methapyrilene	07	91-80-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Methyl methanesulfonate	07	66-27-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Methyl parathion	07	298-00-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
Naphthalene	07	91-20-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
Nitrobenzene	07	98-95-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
n-Nitrosodiethylamine	07	55-18-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	2.72	1	ug/L	SKS
n-Nitrosodimethylamine	07	62-75-9	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
n-Nitrosodi-n-butylamine	07	924-16-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosodi-n-propylamine	07	621-64-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.80	10.9	1	ug/L	SKS
n-Nitrosodiphenylamine	07	86-30-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
n-Nitrosomethylethylamine	07	10595-95-6	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
n-Nitrosopiperidine	07	100-75-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
n-Nitrosopyrrolidine	07	930-55-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
o,o,o-Triethyl phosphorothioate	07	126-68-1	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD	C	2.17	10.9	1	ug/L	SKS
o,o-Diethyl o-2-pyrazinyl phosphorothioate	07	297-97-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
o+m+p-Cresols	07	1319-77-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
o-Cresol	07	95-48-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		8.70	10.9	1	ug/L	SKS
o-Toluidine	07	95-53-4	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS



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Laboratory Sample ID: 20E0002-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Semivolatile Organic Compounds by GCMS												
p-(Dimethylamino) azobenzene	07	60-11-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	2.72	1	ug/L	SKS
p-Chloro-m-cresol	07	59-50-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		3.26	10.9	1	ug/L	SKS
Pentachlorobenzene	07	608-93-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Pentachloronitrobenzene (quintozene)	07	82-68-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	1.09	1	ug/L	SKS
Phenacetin	07	62-44-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		1.09	10.9	1	ug/L	SKS
Phenanthrene	07	85-01-8	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		5.43	10.9	1	ug/L	SKS
Phenol	07	108-95-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.72	10.9	1	ug/L	SKS
Phorate	07	298-02-2	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
p-Phenylenediamine	07	106-50-3	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Pronamide	07	23950-58-5	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	10.9	1	ug/L	SKS
Pyrene	07	129-00-0	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		7.61	10.9	1	ug/L	SKS
Safrole	07	94-59-7	SW8270E	05/05/2020 10:00	05/06/2020 19:08	BLOD		2.17	2.72	1	ug/L	SKS
Surr: 2,4,6-Tribromophenol (Surr)	07	40.4 %	10-86	05/05/2020 10:00	05/06/2020 19:08							
Surr: 2-Fluorobiphenyl (Surr)	07	46.0 %	9-87	05/05/2020 10:00	05/06/2020 19:08							
Surr: 2-Fluorophenol (Surr)	07	33.8 %	10-52	05/05/2020 10:00	05/06/2020 19:08							
Surr: Nitrobenzene-d5 (Surr)	07	48.1 %	10-98.5	05/05/2020 10:00	05/06/2020 19:08							
Surr: Phenol-d5 (Surr)	07	19.7 %	5-33	05/05/2020 10:00	05/06/2020 19:08							
Surr: p-Terphenyl-d14 (Surr)	07	59.9 %	27-133	05/05/2020 10:00	05/06/2020 19:08							



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
PCB as Aroclor 1016	07	12674-11-2	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.028	0.213	1	ug/L	LBH2
PCB as Aroclor 1221	07	11104-28-2	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.021	0.213	1	ug/L	LBH2
PCB as Aroclor 1232	07	11141-16-5	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.016	0.213	1	ug/L	LBH2
PCB as Aroclor 1242	07	53469-21-9	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.044	0.213	1	ug/L	LBH2
PCB as Aroclor 1248	07	12672-29-6	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.051	0.213	1	ug/L	LBH2
PCB as Aroclor 1254	07	11097-69-1	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.037	0.213	1	ug/L	LBH2
PCB as Aroclor 1260	07	11096-82-5	SW8082A	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.036	0.213	1	ug/L	LBH2
<i>Surr: DCB</i>	<i>07</i>	<i>50.2 %</i>	<i>30-105</i>	<i>05/06/2020 09:50</i>	<i>05/07/2020 16:38</i>							
<i>Surr: TCMX</i>	<i>07</i>	<i>49.3 %</i>	<i>30-105</i>	<i>05/06/2020 09:50</i>	<i>05/07/2020 16:38</i>							
4,4'-DDD	07	72-54-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDE	07	72-55-9	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDT	07	50-29-3	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Aldrin	07	309-00-2	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-BHC	07	319-84-6	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-Chlordane	07	5103-71-9	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
beta-BHC	07	319-85-7	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.021	0.053	1	ug/L	LBH2
Chlordane	07	57-74-9	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.213	0.213	1	ug/L	LBH2
delta-BHC	07	319-86-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Dieldrin	07	60-57-1	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan I	07	959-98-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan II	07	33213-65-9	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan sulfate	07	1031-07-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin	07	72-20-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin aldehyde	07	7421-93-4	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2



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Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
Endrin ketone	07	53494-70-5	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-BHC (Lindane)	07	58-89-9	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-Chlordane	07	5103-74-2	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor	07	76-44-8	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor epoxide	07	1024-57-3	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Methoxychlor	07	72-43-5	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.005	0.053	1	ug/L	LBH2
Toxaphene	07	8001-35-2	SW8081B	05/06/2020 09:50	05/07/2020 16:38	BLOD		0.213	1.06	1	ug/L	LBH2
Surr: TCMX	07	65.5 %	18-112	05/06/2020 09:50	05/07/2020 16:38							
Surr: DCB	07	56.4 %	27-131	05/06/2020 09:50	05/07/2020 16:38							



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Organochlorine Herbicides by GC/ECD												
2,4,5-T	07	93-76-5	SW8151A	05/05/2020 14:20	05/12/2020 13:29	BLOD		0.200	0.500	1	ug/L	SKS
2,4,5-TP (Silvex)	07	93-72-1	SW8151A	05/05/2020 14:20	05/12/2020 13:29	BLOD		0.200	0.500	1	ug/L	SKS
2,4-D	07	94-75-7	SW8151A	05/05/2020 14:20	05/12/2020 13:29	BLOD		0.200	0.500	1	ug/L	SKS
Dinoseb	07	88-85-7	SW8151A	05/05/2020 14:20	05/12/2020 13:29	BLOD		0.200	0.500	1	ug/L	SKS
Pentachlorophenol	07	87-86-5	SW8151A	05/05/2020 14:20	05/12/2020 13:29	BLOD		0.200	0.500	1	ug/L	SKS
<i>Surr: DCAA (Surr)</i>	07	80.8 %	60-112	05/05/2020 14:20	05/12/2020 13:29							



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Micro-extractables by GC/ECD												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	05/06/2020 09:25	05/06/2020 18:50	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	07	96-18-4	SW8011	05/06/2020 09:25	05/06/2020 18:50	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	05/06/2020 09:25	05/06/2020 18:50	BLOD		0.005	0.010	1	ug/L	LBH2



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Wet Chemistry Analysis												
Cyanide	07	57-12-5	SW9012B	05/12/2020 15:20	05/13/2020 17:07	BLOD		0.01	0.01	1	mg/L	JH
Sulfide	07	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0020 - EPA200.2/R2.8

Blank (BDE0020-BLK1)

Prepared: 05/01/2020 Analyzed: 05/04/2020

Barium	ND	0.0100	mg/L							
Beryllium	ND	0.0040	mg/L							
Cadmium	ND	0.0040	mg/L							
Chromium	ND	0.0100	mg/L							
Copper	ND	0.0100	mg/L							
Nickel	ND	0.0100	mg/L							
Selenium	ND	0.0500	mg/L							
Silver	ND	0.0100	mg/L							
Tin	ND	0.0200	mg/L							
Vanadium	ND	0.0100	mg/L							
Zinc	ND	0.0100	mg/L							

LCS (BDE0020-BS1)

Prepared: 05/01/2020 Analyzed: 05/04/2020

Barium	0.481	0.0100	mg/L	0.500		96.3	80-120
Beryllium	0.478	0.0040	mg/L	0.500		95.7	80-120
Cadmium	0.478	0.0040	mg/L	0.500		95.5	80-120
Chromium	0.464	0.0100	mg/L	0.500		92.8	80-120
Copper	0.463	0.0100	mg/L	0.500		92.6	80-120
Nickel	0.4861	0.0100	mg/L	0.500		97.2	80-120
Selenium	0.496	0.0500	mg/L	0.500		99.2	80-120
Silver	0.0926	0.0100	mg/L	0.100		92.6	80-120
Tin	0.0966	0.0200	mg/L	0.100		96.6	80-120
Vanadium	0.455	0.0100	mg/L	0.500		90.9	80-120
Zinc	0.475	0.0100	mg/L	0.500		95.0	80-120

LCS Dup (BDE0020-BSD1)

Prepared: 05/01/2020 Analyzed: 05/04/2020



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0020 - EPA200.2/R2.8

LCS Dup (BDE0020-BSD1)

Prepared: 05/01/2020 Analyzed: 05/04/2020

Barium	0.483	0.0100	mg/L	0.500		96.6	80-120	0.373	20	
Beryllium	0.482	0.0040	mg/L	0.500		96.5	80-120	0.848	20	
Cadmium	0.483	0.0040	mg/L	0.500		96.5	80-120	1.07	20	
Chromium	0.468	0.0100	mg/L	0.500		93.6	80-120	0.889	20	
Copper	0.467	0.0100	mg/L	0.500		93.4	80-120	0.935	20	
Nickel	0.4874	0.0100	mg/L	0.500		97.5	80-120	0.285	20	
Selenium	0.505	0.0500	mg/L	0.500		101	80-120	1.91	20	
Silver	0.0931	0.0100	mg/L	0.100		93.1	80-120	0.555	20	
Tin	0.0974	0.0200	mg/L	0.100		97.4	80-120	0.772	20	
Vanadium	0.459	0.0100	mg/L	0.500		91.8	80-120	1.00	20	
Zinc	0.480	0.0100	mg/L	0.500		95.9	80-120	0.987	20	

Matrix Spike (BDE0020-MS1)

Source: 20D1220-01

Prepared: 05/01/2020 Analyzed: 05/04/2020

Barium	0.522	0.0100	mg/L	0.500	0.0388	96.6	75-125			
Beryllium	0.491	0.0040	mg/L	0.500	BLOD	98.2	75-125			
Cadmium	0.481	0.0040	mg/L	0.500	BLOD	96.3	75-125			
Chromium	0.470	0.0100	mg/L	0.500	BLOD	93.9	75-125			
Copper	0.474	0.0100	mg/L	0.500	BLOD	94.7	75-125			
Nickel	0.4838	0.0100	mg/L	0.500	BLOD	96.8	75-125			
Selenium	0.502	0.0500	mg/L	0.500	BLOD	100	75-125			
Silver	0.0934	0.0100	mg/L	0.100	BLOD	93.4	75-125			
Tin	0.0930	0.0200	mg/L	0.100	BLOD	93.0	75-125			
Vanadium	0.461	0.0100	mg/L	0.500	BLOD	92.2	75-125			
Zinc	0.491	0.0100	mg/L	0.500	BLOD	98.1	75-125			

Matrix Spike (BDE0020-MS2)

Source: 20D1220-04

Prepared: 05/01/2020 Analyzed: 05/04/2020



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0020 - EPA200.2/R2.8

Matrix Spike (BDE0020-MS2)	Source: 20D1220-04			Prepared: 05/01/2020 Analyzed: 05/04/2020						
Barium	0.572	0.0100	mg/L	0.500	0.0858	97.2	75-125			
Beryllium	0.479	0.0040	mg/L	0.500	BLOD	95.8	75-125			
Cadmium	0.481	0.0040	mg/L	0.500	0.0027	95.6	75-125			
Chromium	0.469	0.0100	mg/L	0.500	BLOD	93.8	75-125			
Copper	0.470	0.0100	mg/L	0.500	BLOD	93.9	75-125			
Nickel	0.4881	0.0100	mg/L	0.500	BLOD	97.6	75-125			
Selenium	0.504	0.0500	mg/L	0.500	BLOD	101	75-125			
Silver	0.0955	0.0100	mg/L	0.100	BLOD	95.5	75-125			
Tin	0.0926	0.0200	mg/L	0.100	BLOD	92.6	75-125			
Vanadium	0.460	0.0100	mg/L	0.500	BLOD	91.9	75-125			
Zinc	0.479	0.0100	mg/L	0.500	BLOD	95.7	75-125			

Matrix Spike Dup (BDE0020-MSD1)	Source: 20D1220-01			Prepared: 05/01/2020 Analyzed: 05/04/2020						
Barium	0.529	0.0100	mg/L	0.500	0.0388	98.1	75-125	1.36	20	
Beryllium	0.498	0.0040	mg/L	0.500	BLOD	99.6	75-125	1.41	20	
Cadmium	0.489	0.0040	mg/L	0.500	BLOD	97.7	75-125	1.50	20	
Chromium	0.477	0.0100	mg/L	0.500	BLOD	95.4	75-125	1.61	20	
Copper	0.482	0.0100	mg/L	0.500	BLOD	96.5	75-125	1.86	20	
Nickel	0.4968	0.0100	mg/L	0.500	BLOD	99.4	75-125	2.66	20	
Selenium	0.513	0.0500	mg/L	0.500	BLOD	103	75-125	2.16	20	
Silver	0.0943	0.0100	mg/L	0.100	BLOD	94.3	75-125	0.913	20	
Tin	0.0952	0.0200	mg/L	0.100	BLOD	95.2	75-125	2.29	20	
Vanadium	0.469	0.0100	mg/L	0.500	BLOD	93.7	75-125	1.67	20	
Zinc	0.498	0.0100	mg/L	0.500	BLOD	99.5	75-125	1.44	20	

Matrix Spike Dup (BDE0020-MSD2)	Source: 20D1220-04			Prepared: 05/01/2020 Analyzed: 05/04/2020						
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Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0020 - EPA200.2/R2.8

Matrix Spike Dup (BDE0020-MSD2)		Source: 20D1220-04			Prepared: 05/01/2020 Analyzed: 05/04/2020					
Barium	0.517	0.0100	mg/L	0.500	0.0858	86.3	75-125	10.0	20	
Beryllium	0.442	0.0040	mg/L	0.500	BLOD	88.5	75-125	7.95	20	
Cadmium	0.440	0.0040	mg/L	0.500	0.0027	87.4	75-125	8.89	20	
Chromium	0.429	0.0100	mg/L	0.500	BLOD	85.8	75-125	8.82	20	
Copper	0.431	0.0100	mg/L	0.500	BLOD	86.1	75-125	8.63	20	
Nickel	0.4495	0.0100	mg/L	0.500	BLOD	89.9	75-125	8.24	20	
Selenium	0.463	0.0500	mg/L	0.500	BLOD	92.5	75-125	8.55	20	
Silver	0.0894	0.0100	mg/L	0.100	BLOD	89.4	75-125	6.60	20	
Tin	0.0869	0.0200	mg/L	0.100	BLOD	86.9	75-125	6.35	20	
Vanadium	0.420	0.0100	mg/L	0.500	BLOD	84.0	75-125	9.04	20	
Zinc	0.448	0.0100	mg/L	0.500	BLOD	89.7	75-125	6.56	20	

Batch BDE0022 - EPA200.8 R5.4

Matrix Spike (BDE0022-MS1)		Source: 20D1220-01			Prepared: 05/01/2020 Analyzed: 05/04/2020					
Antimony	56.4	1.00	ug/L	50.0	BLOD	113	75-125			
Arsenic	52	1.0	ug/L	50.0	BLOD	105	75-125			
Cobalt	118	1.00	ug/L	50.0	70.9	94.9	75-125			
Lead	51.8	1.00	ug/L	50.0	BLOD	104	75-125			
Thallium	50.5	1.00	ug/L	50.0	BLOD	101	75-125			

Matrix Spike Dup (BDE0022-MSD1)		Source: 20D1220-01			Prepared: 05/01/2020 Analyzed: 05/04/2020					
Antimony	56.6	1.00	ug/L	50.0	BLOD	113	75-125	0.447	20	
Arsenic	53	1.0	ug/L	50.0	BLOD	105	75-125	0.365	20	
Cobalt	120	1.00	ug/L	50.0	70.9	97.3	75-125	0.990	20	
Lead	51.7	1.00	ug/L	50.0	BLOD	103	75-125	0.105	20	
Thallium	50.6	1.00	ug/L	50.0	BLOD	101	75-125	0.205	20	



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Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0022 - EPA200.8 R5.4										
Matrix Spike Dup (BDE0022-MSD1) Source: 20D1220-01 Prepared: 05/01/2020 Analyzed: 05/04/2020										
Batch BDE0299 - SW7470A										
Blank (BDE0299-BLK1) Prepared & Analyzed: 05/11/2020										
Mercury	ND	0.00020	mg/L							
LCS (BDE0299-BS1) Prepared & Analyzed: 05/11/2020										
Mercury	0.00278	0.00020	mg/L	0.00250		111	80-120			
LCS Dup (BDE0299-BSD1) Prepared & Analyzed: 05/11/2020										
Mercury	0.00259	0.00020	mg/L	0.00250		104	80-120	6.79	20	
Matrix Spike (BDE0299-MS1) Source: 20E0001-09 Prepared & Analyzed: 05/11/2020										
Mercury	0.00281	0.00020	mg/L	0.00250	0.00053	91.1	80-120			
Matrix Spike (BDE0299-MS2) Source: 20E0002-07 Prepared & Analyzed: 05/11/2020										
Mercury	0.00272	0.00020	mg/L	0.00250	BLOD	109	80-120			
Matrix Spike Dup (BDE0299-MSD1) Source: 20E0001-09 Prepared & Analyzed: 05/11/2020										
Mercury	0.00279	0.00020	mg/L	0.00250	0.00053	90.3	80-120	0.665	20	
Matrix Spike Dup (BDE0299-MSD2) Source: 20E0002-07 Prepared & Analyzed: 05/11/2020										
Mercury	0.00272	0.00020	mg/L	0.00250	BLOD	109	80-120	0.105	20	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Blank (BDE0013-BLK1)

Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L							
1,1,1-Trichloroethane	ND	1.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L							
1,1,2-Trichloroethane	ND	1.00	ug/L							
1,1-Dichloroethane	ND	1.00	ug/L							
1,1-Dichloroethylene	ND	1.00	ug/L							
1,1-Dichloropropene	ND	1.00	ug/L							
1,2,3-Trichloropropane	ND	1.00	ug/L							
1,2,4-Trichlorobenzene	ND	1.00	ug/L							
1,2-Dichlorobenzene	ND	1.00	ug/L							
1,2-Dichloroethane	ND	1.00	ug/L							
1,2-Dichloropropane	ND	1.00	ug/L							
1,3-Dichlorobenzene	ND	1.00	ug/L							
1,3-Dichloropropane	ND	1.00	ug/L							
1,4-Dichlorobenzene	ND	1.00	ug/L							
2,2-Dichloropropane	ND	2.00	ug/L							
2-Butanone (MEK)	ND	10.0	ug/L							
2-Hexanone (MBK)	ND	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L							
Acetone	ND	10.0	ug/L							
Acetonitrile	ND	10.0	ug/L							
Acrolein	ND	10.0	ug/L							
Acrylonitrile	ND	5.00	ug/L							
Allyl chloride	ND	1.00	ug/L							
Benzene	ND	1.00	ug/L							



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Blank (BDE0013-BLK1)

Prepared & Analyzed: 05/01/2020

Bromochloromethane	ND	1.00	ug/L							
Bromodichloromethane	ND	0.50	ug/L							
Bromoform	ND	1.00	ug/L							
Bromomethane	ND	1.00	ug/L							
Carbon disulfide	ND	10.0	ug/L							
Carbon tetrachloride	ND	1.00	ug/L							
Chlorobenzene	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							
Chloroform	ND	0.50	ug/L							
Chloromethane	ND	1.00	ug/L							
Chloroprene	ND	5.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
cis-1,3-Dichloropropene	ND	1.00	ug/L							
Dibromochloromethane	ND	0.50	ug/L							
Dibromomethane	ND	1.00	ug/L							
Dichlorodifluoromethane	ND	1.00	ug/L							
Ethyl methacrylate	ND	5.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
Iodomethane	ND	10.0	ug/L							
Isobutyl Alcohol	ND	40.0	ug/L							
m+p-Xylenes	ND	2.00	ug/L							
Methacrylonitrile	ND	1.50	ug/L							
Methyl methacrylate	ND	2.00	ug/L							
Methylene chloride	ND	4.00	ug/L							
o-Xylene	ND	1.00	ug/L							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
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Date Issued: 5/14/2020 5:11:21PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Blank (BDE0013-BLK1)

Prepared & Analyzed: 05/01/2020

Propionitrile	ND	40.0	ug/L							
Styrene	ND	1.00	ug/L							
Tetrachloroethylene (PCE)	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,3-Dichloropropene	ND	1.00	ug/L							
trans-1,4-Dichloro-2-butene	ND	4.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Trichlorofluoromethane	ND	1.00	ug/L							
Vinyl acetate	ND	10.0	ug/L							
Vinyl chloride	ND	0.50	ug/L							
Xylenes, Total	ND	3.00	ug/L							
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<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	51.6		ug/L	50.0		103	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	44.6		ug/L	50.0		89.2	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	52.0		ug/L	50.0		104	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.9		ug/L	50.0		99.7	70-130			

LCS (BDE0013-BS1)

Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	54.1	0.4	ug/L	50.0		108	80-130			
1,1,1-Trichloroethane	52.0	1	ug/L	50.0		104	65-130			
1,1,2,2-Tetrachloroethane	51.9	0.4	ug/L	50.0		104	65-130			
1,1,2-Trichloroethane	49.6	1	ug/L	50.0		99.3	75-125			
1,1-Dichloroethane	50.3	1	ug/L	50.0		101	70-135			
1,1-Dichloroethylene	52.4	1	ug/L	50.0		105	70-130			
1,1-Dichloropropene	54.4	1	ug/L	50.0		109	75-135			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

LCS (BDE0013-BS1)

Prepared & Analyzed: 05/01/2020

1,2,3-Trichloropropane	49.3	1	ug/L	50.0		98.5	75-125			
1,2,4-Trichlorobenzene	66.5	1	ug/L	50.0		133	65-135			
1,2-Dichlorobenzene	57.2	0.5	ug/L	50.0		114	70-120			
1,2-Dichloroethane	48.2	1	ug/L	50.0		96.3	70-130			
1,2-Dichloropropane	49.3	0.5	ug/L	50.0		98.5	75-125			
1,3-Dichlorobenzene	58.8	1	ug/L	50.0		118	75-125			
1,3-Dichloropropane	47.8	1	ug/L	50.0		95.7	75-125			
1,4-Dichlorobenzene	58.1	1	ug/L	50.0		116	75-125			
2,2-Dichloropropane	53.0	1	ug/L	50.0		106	70-135			
2-Butanone (MEK)	51.1	10	ug/L	50.0		102	30-150			
2-Hexanone (MBK)	42.8	5	ug/L	50.0		85.7	55-130			
4-Methyl-2-pentanone (MIBK)	45.5	5	ug/L	50.0		91.0	60-135			
Acetone	47.0	10	ug/L	50.0		94.0	40-140			
Acrylonitrile	312	5	ug/L	250		125	70-130			
Benzene	50.0	1	ug/L	50.0		100	80-120			
Bromochloromethane	48.8	1	ug/L	50.0		97.6	65-130			
Bromodichloromethane	49.8	0.5	ug/L	50.0		99.6	75-120			
Bromoform	51.4	1	ug/L	50.0		103	70-130			
Bromomethane	49.1	1	ug/L	50.0		98.2	30-145			
Carbon disulfide	49.3	10	ug/L	50.0		98.7	35-160			
Carbon tetrachloride	51.7	1	ug/L	50.0		103	65-140			
Chlorobenzene	56.2	1	ug/L	50.0		112	80-120			
Chloroethane	49.2	1	ug/L	50.0		98.4	60-135			
Chloroform	50.0	0.5	ug/L	50.0		99.9	65-135			
Chloromethane	33.2	1	ug/L	50.0		66.5	40-125			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

LCS (BDE0013-BS1)

Prepared & Analyzed: 05/01/2020

cis-1,2-Dichloroethylene	48.4	1	ug/L	50.0		96.7	70-125			
cis-1,3-Dichloropropene	48.8	1	ug/L	50.0		97.7	70-130			
Dibromochloromethane	52.4	0.5	ug/L	50.0		105	60-135			
Dibromomethane	46.6	1	ug/L	50.0		93.3	75-125			
Dichlorodifluoromethane	39.5	1	ug/L	50.0		79.1	30-155			
Ethylbenzene	55.0	1	ug/L	50.0		110	75-125			
m+p-Xylenes	114	2	ug/L	100		114	75-130			
Methylene chloride	48.0	4	ug/L	50.0		95.9	55-140			
o-Xylene	55.5	1	ug/L	50.0		111	80-120			
Styrene	54.1	1	ug/L	50.0		108	65-135			
Tetrachloroethylene (PCE)	83.4	1	ug/L	50.0		167	45-150			L
Toluene	51.6	1	ug/L	50.0		103	75-120			
trans-1,2-Dichloroethylene	51.0	1	ug/L	50.0		102	60-140			
trans-1,3-Dichloropropene	44.5	1	ug/L	50.0		89.0	55-140			
Trichloroethylene	49.8	1	ug/L	50.0		99.6	70-125			
Trichlorofluoromethane	50.1	1	ug/L	50.0		100	60-145			
Vinyl chloride	49.8	0.5	ug/L	50.0		99.5	50-145			
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<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	49.8		ug/L	50.0		99.5	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	47.7		ug/L	50.0		95.5	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	52.8		ug/L	50.0		106	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.8		ug/L	50.0		99.6	70-130			

Duplicate (BDE0013-DUP1)

Source: 20D1218-01

Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Duplicate (BDE0013-DUP1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,2,4-Trichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,3-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	0.47	1.00	ug/L		0.47			NA	30	
2,2-Dichloropropane	ND	2.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	10.0	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	5.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L		BLOD			NA	30	
Acetone	ND	10.0	ug/L		BLOD			NA	30	
Acetonitrile	ND	10.0	ug/L		BLOD			NA	30	
Acrolein	ND	10.0	ug/L		BLOD			NA	30	
Acrylonitrile	ND	5.00	ug/L		BLOD			NA	30	
Allyl chloride	ND	1.00	ug/L		BLOD			NA	30	
Benzene	ND	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	ND	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	0.50	ug/L		BLOD			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Duplicate (BDE0013-DUP1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
Bromoform	ND	1.00	ug/L		BLOD			NA	30	
Bromomethane	ND	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	ND	1.00	ug/L		BLOD			NA	30	
Chlorobenzene	0.73	1.00	ug/L		0.79			NA	30	
Chloroethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroform	ND	0.50	ug/L		BLOD			NA	30	
Chloromethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroprene	ND	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	0.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	1.00	ug/L		BLOD			NA	30	
Dichlorodifluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Ethyl methacrylate	ND	5.00	ug/L		BLOD			NA	30	
Ethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Iodomethane	ND	10.0	ug/L		BLOD			NA	30	
Isobutyl Alcohol	ND	40.0	ug/L		BLOD			NA	30	
m+p-Xylenes	ND	2.00	ug/L		BLOD			NA	30	
Methacrylonitrile	ND	1.50	ug/L		BLOD			NA	30	
Methyl methacrylate	ND	2.00	ug/L		BLOD			NA	30	
Methylene chloride	ND	4.00	ug/L		BLOD			NA	30	
o-Xylene	ND	1.00	ug/L		BLOD			NA	30	
Propionitrile	ND	40.0	ug/L		BLOD			NA	30	
Styrene	ND	1.00	ug/L		BLOD			NA	30	



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Duplicate (BDE0013-DUP1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
Tetrachloroethylene (PCE)	ND	1.00	ug/L		BLOD			NA	30	
Toluene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	ND	4.00	ug/L		BLOD			NA	30	
Trichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	ND	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	ND	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	ND	3.00	ug/L		BLOD			NA	30	

<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	56.5		ug/L	50.0		113	70-120
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	44.4		ug/L	50.0		88.8	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	54.8		ug/L	50.0		110	70-130
<i>Surr: Toluene-d8 (Surr)</i>	50.9		ug/L	50.0		102	70-130

Matrix Spike (BDE0013-MS1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
1,1,1,2-Tetrachloroethane	54.3	0.4	ug/L	50.0	BLOD	109	80-130			
1,1,1-Trichloroethane	48.0	1	ug/L	50.0	BLOD	96.1	65-130			
1,1,2,2-Tetrachloroethane	54.1	0.4	ug/L	50.0	BLOD	108	65-130			
1,1,2-Trichloroethane	52.0	1	ug/L	50.0	BLOD	104	75-125			
1,1-Dichloroethane	44.9	1	ug/L	50.0	BLOD	89.8	70-135			
1,1-Dichloroethylene	45.8	1	ug/L	50.0	BLOD	91.6	70-130			
1,1-Dichloropropene	50.5	1	ug/L	50.0	BLOD	101	75-135			
1,2,3-Trichloropropane	50.9	1	ug/L	50.0	BLOD	102	75-125			
1,2,4-Trichlorobenzene	62.0	1	ug/L	50.0	BLOD	124	65-135			



Certificate of Analysis

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 Submitted To: Michele Clary

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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Matrix Spike (BDE0013-MS1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
1,2-Dichlorobenzene	57.0	0.5	ug/L	50.0	BLOD	114	70-120			
1,2-Dichloroethane	46.3	1	ug/L	50.0	BLOD	92.6	70-130			
1,2-Dichloropropane	48.9	0.5	ug/L	50.0	BLOD	97.8	75-125			
1,3-Dichlorobenzene	57.4	1	ug/L	50.0	BLOD	114	75-125			
1,3-Dichloropropane	49.4	1	ug/L	50.0	BLOD	98.8	75-125			
1,4-Dichlorobenzene	56.3	1	ug/L	50.0	0.47	112	75-125			
2,2-Dichloropropane	45.2	1	ug/L	50.0	BLOD	90.4	70-135			
2-Butanone (MEK)	46.6	10	ug/L	50.0	BLOD	93.2	30-150			
2-Hexanone (MBK)	44.3	5	ug/L	50.0	BLOD	88.6	55-130			
4-Methyl-2-pentanone (MIBK)	45.3	5	ug/L	50.0	BLOD	90.6	60-135			
Acetone	41.0	10	ug/L	50.0	BLOD	80.9	40-140			
Acrylonitrile	200	5	ug/L	250	BLOD	79.9	70-130			
Benzene	50.7	1	ug/L	50.0	BLOD	101	80-120			
Bromochloromethane	44.8	1	ug/L	50.0	BLOD	89.7	65-130			
Bromodichloromethane	50.0	0.5	ug/L	50.0	BLOD	100	75-120			
Bromoform	53.6	1	ug/L	50.0	BLOD	107	70-130			
Bromomethane	40.7	1	ug/L	50.0	BLOD	81.4	30-145			
Carbon disulfide	41.0	10	ug/L	50.0	BLOD	82.0	35-160			
Carbon tetrachloride	50.5	1	ug/L	50.0	BLOD	101	65-140			
Chlorobenzene	57.2	1	ug/L	50.0	0.79	113	80-120			
Chloroethane	43.2	1	ug/L	50.0	BLOD	86.4	60-135			
Chloroform	46.2	0.5	ug/L	50.0	BLOD	92.4	65-135			
Chloromethane	28.4	1	ug/L	50.0	BLOD	56.9	40-125			
cis-1,2-Dichloroethylene	44.4	1	ug/L	50.0	BLOD	88.7	70-125			
cis-1,3-Dichloropropene	48.6	1	ug/L	50.0	BLOD	97.2	70-130			



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0013 - SW5030B

Matrix Spike (BDE0013-MS1)	Source: 20D1218-01			Prepared & Analyzed: 05/01/2020						
Dibromochloromethane	51.7	0.5	ug/L	50.0	BLOD	103	60-135			
Dibromomethane	46.7	1	ug/L	50.0	BLOD	93.4	75-125			
Dichlorodifluoromethane	30.4	1	ug/L	50.0	BLOD	60.7	30-155			
Ethylbenzene	54.9	1	ug/L	50.0	BLOD	110	75-125			
m+p-Xylenes	115	2	ug/L	100	BLOD	115	75-130			
Methylene chloride	43.0	4	ug/L	50.0	BLOD	85.9	55-140			
o-Xylene	55.8	1	ug/L	50.0	BLOD	112	80-120			
Styrene	54.4	1	ug/L	50.0	BLOD	109	65-135			
Tetrachloroethylene (PCE)	83.5	1	ug/L	50.0	BLOD	167	45-150			M
Toluene	51.5	1	ug/L	50.0	BLOD	103	75-120			
trans-1,2-Dichloroethylene	45.8	1	ug/L	50.0	BLOD	91.5	60-140			
trans-1,3-Dichloropropene	44.0	1	ug/L	50.0	BLOD	88.1	55-140			
Trichloroethylene	48.8	1	ug/L	50.0	BLOD	97.6	70-125			
Trichlorofluoromethane	41.6	1	ug/L	50.0	BLOD	83.3	60-145			
Vinyl chloride	40.0	0.5	ug/L	50.0	BLOD	79.9	50-145			
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<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.2		ug/L	50.0		92.4	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.5		ug/L	50.0		96.9	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	45.8		ug/L	50.0		91.7	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.0		ug/L	50.0		98.0	70-130			



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

Blank (BDE0106-BLK2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

1,2,4,5-Tetrachlorobenzene	ND	10.0	ug/L							
1,3,5-Trinitrobenzene	ND	5.00	ug/L							
1,3-Dinitrobenzene	ND	2.50	ug/L							
1,4-Naphthoquinone	ND	10.0	ug/L							
1-Naphthylamine	ND	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	ND	10.0	ug/L							
2,4,5-Trichlorophenol	ND	10.0	ug/L							
2,4,6-Trichlorophenol	ND	10.0	ug/L							
2,4-Dichlorophenol	ND	10.0	ug/L							
2,4-Dimethylphenol	ND	0.50	ug/L							
2,4-Dinitrophenol	ND	50.0	ug/L							
2,4-Dinitrotoluene	ND	10.0	ug/L							
2,6-Dichlorophenol	ND	10.0	ug/L							
2,6-Dinitrotoluene	ND	10.0	ug/L							
2-Acetylaminofluorene	ND	2.50	ug/L							
2-Chloronaphthalene	ND	10.0	ug/L							
2-Chlorophenol	ND	10.0	ug/L							
2-Methylnaphthalene	ND	10.0	ug/L							
2-Naphthylamine	ND	10.0	ug/L							
2-Nitroaniline	ND	20.0	ug/L							
2-Nitrophenol	ND	10.0	ug/L							
3,3'-Dichlorobenzidine	ND	10.0	ug/L							
3,3'-Dimethylbenzidine	ND	2.50	ug/L							
3-Methylcholanthrene	ND	10.0	ug/L							
3-Nitroaniline	ND	20.0	ug/L							



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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

Blank (BDE0106-BLK2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

4,6-Dinitro-2-methylphenol	ND	50.0	ug/L							
4-Aminobiphenyl	ND	10.0	ug/L							
4-Bromophenyl phenyl ether	ND	10.0	ug/L							
4-Chloroaniline	ND	10.0	ug/L							
4-Chlorophenyl phenyl ether	ND	10.0	ug/L							
4-Nitroaniline	ND	20.0	ug/L							
4-Nitrophenol	ND	50.0	ug/L							
5-Nitro-o-toluidine	ND	10.0	ug/L							
7,12-Dimethylbenz (a) anthracene	ND	10.0	ug/L							
Acenaphthene	ND	10.0	ug/L							
Acenaphthylene	ND	10.0	ug/L							
Acetophenone	ND	20.0	ug/L							
Anthracene	ND	10.0	ug/L							
Benzo (a) anthracene	0.12	0.05	ug/L							B
Benzo (a) pyrene	ND	0.10	ug/L							
Benzo (b) fluoranthene	ND	10.0	ug/L							
Benzo (g,h,i) perylene	ND	10.0	ug/L							
Benzo (k) fluoranthene	ND	10.0	ug/L							
Benzyl alcohol	ND	20.0	ug/L							
bis (2-Chloroethoxy) methane	ND	10.0	ug/L							
bis (2-Chloroethyl) ether	ND	10.0	ug/L							
2,2'-Oxybis (1-chloropropane)	ND	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	ND	2.50	ug/L							
Butyl benzyl phthalate	ND	10.0	ug/L							
Chlorobenzilate	ND	2.50	ug/L							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

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Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

Blank (BDE0106-BLK2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

Chrysene	ND	10.0	ug/L							
Diallate	ND	2.50	ug/L							
Dibenz (a,h) anthracene	ND	10.0	ug/L							
Dibenzofuran	ND	5.00	ug/L							
Diethyl phthalate	ND	10.0	ug/L							
Dimethoate	ND	2.50	ug/L							
Dimethyl phthalate	ND	10.0	ug/L							
Di-n-butyl phthalate	ND	10.0	ug/L							
Di-n-octyl phthalate	ND	10.0	ug/L							
Diphenylamine	ND	10.0	ug/L							
Disulfoton	ND	2.50	ug/L							
Ethyl methanesulfonate	ND	20.0	ug/L							
Ethyl parathion	ND	2.50	ug/L							
Famphur	ND	2.50	ug/L							
Fluoranthene	ND	10.0	ug/L							
Fluorene	ND	10.0	ug/L							
Hexachlorobenzene	ND	0.05	ug/L							
Hexachlorobutadiene	ND	10.0	ug/L							
Hexachlorocyclopentadiene	ND	10.0	ug/L							
Hexachloroethane	ND	10.0	ug/L							
Hexachloropropene	ND	2.50	ug/L							
Indeno (1,2,3-cd) pyrene	ND	10.0	ug/L							
Isodrin	ND	10.0	ug/L							
Isophorone	ND	10.0	ug/L							
Isosafrole	ND	10.0	ug/L							



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Semivolatle Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

Blank (BDE0106-BLK2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

Kepone	ND	2.50	ug/L
m+p-Cresols	ND	10.0	ug/L
Methapyrilene	ND	10.0	ug/L
Methyl methanesulfonate	ND	10.0	ug/L
Methyl parathion	ND	2.50	ug/L
Naphthalene	ND	10.0	ug/L
Nitrobenzene	ND	10.0	ug/L
n-Nitrosodiethylamine	ND	2.50	ug/L
n-Nitrosodimethylamine	ND	10.0	ug/L
n-Nitrosodi-n-butylamine	ND	10.0	ug/L
n-Nitrosodi-n-propylamine	ND	10.0	ug/L
n-Nitrosodiphenylamine	ND	10.0	ug/L
n-Nitrosomethylethylamine	ND	2.50	ug/L
n-Nitrosopiperidine	ND	10.0	ug/L
n-Nitrosopyrrolidine	ND	2.50	ug/L
o,o,o-Triethyl phosphorothioate	ND	10.0	ug/L
o,o-Diethyl o-2-pyrazinyl phosphorothioate	ND	10.0	ug/L
o+m+p-Cresols	ND	10.0	ug/L
o-Cresol	ND	10.0	ug/L
o-Toluidine	ND	2.50	ug/L
p-(Dimethylamino) azobenzene	ND	2.50	ug/L
p-Chloro-m-cresol	ND	10.0	ug/L
Pentachlorobenzene	ND	10.0	ug/L
Pentachloronitrobenzene (quintozene)	ND	1.00	ug/L
Phenacetin	ND	10.0	ug/L



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Semivolatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

Blank (BDE0106-BLK2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

Phenanthrene	ND	10.0	ug/L							
Phenol	ND	10.0	ug/L							
Phorate	ND	2.50	ug/L							
p-Phenylenediamine	ND	10.0	ug/L							
Pronamide	ND	10.0	ug/L							
Pyrene	ND	10.0	ug/L							
Safrole	ND	2.50	ug/L							
<hr/>										
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	41.7		ug/L	100		41.7	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	24.7		ug/L	50.0		49.4	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	37.0		ug/L	100		37.0	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	25.5		ug/L	50.0		51.1	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	22.1		ug/L	100		22.1	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	28.8		ug/L	50.0		57.7	27-133			

LCS (BDE0106-BS2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

1,2,4-Trichlorobenzene	17.4	10.0	ug/L	50.0		34.8	22-135			
1,2-Dichlorobenzene	23.1	10.0	ug/L	50.0		46.3	22-115			
1,3-Dichlorobenzene	23.8	10.0	ug/L	50.0		47.7	22-112			
1,4-Dichlorobenzene	21.7	10.0	ug/L	50.0		43.5	13-112			
2,4,6-Trichlorophenol	22.1	10.0	ug/L	50.0		44.3	11-145			
2,4-Dichlorophenol	21.6	10.0	ug/L	50.0		43.3	11-75			
2,4-Dimethylphenol	24.5	0.50	ug/L	50.0		49.0	11-121			
2,4-Dinitrophenol	63.1	50.0	ug/L	50.0		126	11-165			
2,4-Dinitrotoluene	33.6	10.0	ug/L	50.0		67.2	17-155			
2,6-Dinitrotoluene	27.0	10.0	ug/L	50.0		54.0	15-125			



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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

LCS (BDE0106-BS2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

2-Chloronaphthalene	21.4	10.0	ug/L	50.0		42.8	27-89			
2-Chlorophenol	24.9	10.0	ug/L	50.0		49.8	15-110			
2-Nitrophenol	27.4	10.0	ug/L	50.0		54.7	11-115			
3,3'-Dichlorobenzidine	39.2	10.0	ug/L	50.0		78.3	25-95			
4,6-Dinitro-2-methylphenol	47.1	50.0	ug/L	50.0		94.2	25-130			
4-Bromophenyl phenyl ether	32.0	10.0	ug/L	50.0		63.9	15-110			
4-Chlorophenyl phenyl ether	20.1	10.0	ug/L	50.0		40.2	15-110			
4-Nitrophenol	16.5	50.0	ug/L	50.0		33.0	12-70			
Acenaphthene	22.5	10.0	ug/L	50.0		45.1	18-85			
Acenaphthylene	24.8	10.0	ug/L	50.0		49.5	20-75			
Acetophenone	20.2	20.0	ug/L	50.0		40.4	0-200			
alpha-Terpineol	26.5	2.50	ug/L	50.0		53.0	0-200			
Anthracene	31.3	10.0	ug/L	50.0		62.6	35-95			
Benzo (a) anthracene	33.4	0.05	ug/L	50.0		66.8	25-95			
Benzo (a) pyrene	38.7	0.10	ug/L	50.0		77.4	37-110			
Benzo (b) fluoranthene	39.3	10.0	ug/L	50.0		78.6	25-75			L
Benzo (g,h,i) perylene	44.4	10.0	ug/L	50.0		88.8	25-90			
Benzo (k) fluoranthene	37.2	10.0	ug/L	50.0		74.4	25-95			
bis (2-Chloroethoxy) methane	23.9	10.0	ug/L	50.0		47.8	25-110			
bis (2-Chloroethyl) ether	22.1	10.0	ug/L	50.0		44.2	25-85			
2,2'-Oxybis (1-chloropropane)	23.8	10.0	ug/L	50.0		47.6	25-95			
bis (2-Ethylhexyl) phthalate	31.9	2.50	ug/L	50.0		63.7	30-125			
Butyl benzyl phthalate	34.4	10.0	ug/L	50.0		68.9	30-115			
Carbazole	41.5	2.50	ug/L	50.0		83.1	0-200			
Chrysene	44.9	10.0	ug/L	50.0		89.7	20-90			



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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0106 - SW3510C

LCS (BDE0106-BS2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

Dibenz (a,h) anthracene	44.6	10.0	ug/L	50.0		89.1	27-125			
Diethyl phthalate	30.8	10.0	ug/L	50.0		61.7	25-120			
Dimethyl phthalate	25.5	10.0	ug/L	50.0		51.1	25-125			
Di-n-butyl phthalate	42.4	10.0	ug/L	50.0		84.9	35-115			
Di-n-octyl phthalate	31.2	10.0	ug/L	50.0		62.4	25-105			
Fluoranthene	43.3	10.0	ug/L	50.0		86.6	33-95			
Fluorene	24.7	10.0	ug/L	50.0		49.4	15-97			
Hexachlorobenzene	36.3	0.05	ug/L	50.0		72.5	25-125			
Hexachlorobutadiene	19.7	10.0	ug/L	50.0		39.3	25-125			
Hexachlorocyclopentadiene	10.1	10.0	ug/L	50.0		20.2	25-125			L
Hexachloroethane	19.8	10.0	ug/L	50.0		39.7	25-125			
Indeno (1,2,3-cd) pyrene	44.4	10.0	ug/L	50.0		88.8	25-125			
Isophorone	22.3	10.0	ug/L	50.0		44.6	10-110			
Naphthalene	22.2	10.0	ug/L	50.0		44.5	12-100			
Nitrobenzene	20.2	10.0	ug/L	50.0		40.5	30-97			
n-Nitrosodimethylamine	9.10	10.0	ug/L	50.0		18.2	10-85			
n-Nitrosodi-n-propylamine	21.2	10.0	ug/L	50.0		42.4	12-97			
n-Nitrosodiphenylamine	24.9	10.0	ug/L	50.0		49.9	12-97			
p-Chloro-m-cresol	22.3	10.0	ug/L	50.0		44.6	10-91			
Pentachlorophenol	45.6	20.0	ug/L	50.0		91.2	30-109			
Phenanthrene	34.7	10.0	ug/L	50.0		69.4	30-88			
Phenol	9.65	10.0	ug/L	50.5		19.1	10-70			
Pyrene	29.4	10.0	ug/L	50.0		58.8	27-110			
Pyridine	18.8	10.0	ug/L	50.0		37.6	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>68.8</i>		<i>ug/L</i>	<i>100</i>		<i>68.8</i>	<i>10-86</i>			



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Batch BDE0106 - SW3510C

LCS (BDE0106-BS2)

Prepared: 05/05/2020 Analyzed: 05/06/2020

<i>Surr: 2-Fluorobiphenyl (Surr)</i>	24.2		ug/L	50.0		48.4	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	37.3		ug/L	100		37.3	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	26.2		ug/L	50.0		52.4	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	21.8		ug/L	100		21.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	31.0		ug/L	50.0		62.0	27-133			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0149 - SW3510C

Blank (BDE0149-BLK1)

Prepared: 05/06/2020 Analyzed: 05/07/2020

PCB as Aroclor 1016	ND	0.200	ug/L							
4,4'-DDD	ND	0.050	ug/L							
PCB as Aroclor 1221	ND	0.200	ug/L							
PCB as Aroclor 1232	ND	0.200	ug/L							
4,4'-DDE	ND	0.050	ug/L							
PCB as Aroclor 1242	ND	0.200	ug/L							
PCB as Aroclor 1248	ND	0.200	ug/L							
4,4'-DDT	ND	0.050	ug/L							
PCB as Aroclor 1254	ND	0.200	ug/L							
PCB as Aroclor 1260	ND	0.200	ug/L							
Aldrin	ND	0.050	ug/L							
alpha-BHC	ND	0.050	ug/L							
alpha-Chlordane	ND	0.050	ug/L							
beta-BHC	ND	0.050	ug/L							
Chlordane	ND	0.200	ug/L							
delta-BHC	ND	0.050	ug/L							
Dieldrin	ND	0.050	ug/L							
Endosulfan I	ND	0.050	ug/L							
Endosulfan II	ND	0.050	ug/L							
Endosulfan sulfate	ND	0.050	ug/L							
Endrin	ND	0.050	ug/L							
Endrin aldehyde	ND	0.050	ug/L							
Endrin ketone	ND	0.050	ug/L							
gamma-BHC (Lindane)	ND	0.050	ug/L							
gamma-Chlordane	ND	0.050	ug/L							



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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0149 - SW3510C

Blank (BDE0149-BLK1)

Prepared: 05/06/2020 Analyzed: 05/07/2020

Heptachlor	ND	0.050	ug/L							
Heptachlor epoxide	ND	0.050	ug/L							
Methoxychlor	ND	0.050	ug/L							
Toxaphene	ND	1.00	ug/L							
<i>Surr: DCB</i>	<i>0.121</i>		ug/L	<i>0.200</i>		<i>60.7</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.133</i>		ug/L	<i>0.200</i>		<i>66.4</i>	<i>18-112</i>			
<i>Surr: TCMX</i>	<i>0.133</i>		ug/L	<i>0.200</i>		<i>66.4</i>	<i>30-105</i>			
<i>Surr: DCB</i>	<i>0.121</i>		ug/L	<i>0.200</i>		<i>60.7</i>	<i>27-131</i>			

LCS (BDE0149-BS1)

Prepared: 05/06/2020 Analyzed: 05/07/2020

4,4'-DDD	0.076	0.050	ug/L	0.100		75.8	23-134			
4,4'-DDE	0.074	0.050	ug/L	0.100		74.4	23-134			
4,4'-DDT	0.073	0.050	ug/L	0.100		72.7	23-134			
Aldrin	0.067	0.050	ug/L	0.100		66.8	23-134			
alpha-BHC	0.075	0.050	ug/L	0.100		74.6	23-134			
beta-BHC	0.088	0.050	ug/L	0.100		88.0	23-134			
delta-BHC	0.077	0.050	ug/L	0.100		76.6	23-134			
Dieldrin	0.079	0.050	ug/L	0.100		78.9	23-134			
Endosulfan I	0.079	0.050	ug/L	0.100		78.9	23-134			
Endosulfan II	0.083	0.050	ug/L	0.100		83.5	23-134			
Endosulfan sulfate	0.069	0.050	ug/L	0.100		68.8	23-134			
Endrin	0.077	0.050	ug/L	0.100		77.3	23-134			
Endrin aldehyde	0.067	0.050	ug/L	0.100		67.5	23-134			
gamma-BHC (Lindane)	0.072	0.050	ug/L	0.100		72.1	23-134			
Heptachlor	0.064	0.050	ug/L	0.100		64.2	23-134			



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Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0149 - SW3510C										
LCS (BDE0149-BS1)				Prepared: 05/06/2020 Analyzed: 05/07/2020						
Heptachlor epoxide	0.081	0.050	ug/L	0.100		80.7	23-134			
Methoxychlor	0.071	0.050	ug/L	0.100		71.5	23-134			
Mirex	0.064	0.050	ug/L	0.100		63.9	23-134			
<i>Surr: TCMX</i>	<i>0.131</i>		ug/L	<i>0.200</i>		<i>65.7</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.106</i>		ug/L	<i>0.200</i>		<i>53.2</i>	<i>27-131</i>			
LCS (BDE0149-BS2)				Prepared: 05/06/2020 Analyzed: 05/07/2020						
PCB as Aroclor 1016	0.816	0.200	ug/L	1.00		81.6	40-100			
PCB as Aroclor 1260	0.634	0.200	ug/L	1.00		63.4	40-100			
<i>Surr: DCB</i>	<i>0.0951</i>		ug/L	<i>0.200</i>		<i>47.6</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.104</i>		ug/L	<i>0.200</i>		<i>51.8</i>	<i>30-105</i>			
LCS (BDE0149-BS3)				Prepared: 05/06/2020 Analyzed: 05/07/2020						
Toxaphene	1.85	1.00	ug/L	2.50		74.1	23-134			
LCS (BDE0149-BS4)				Prepared: 05/06/2020 Analyzed: 05/07/2020						
Chlordane	2.16	0.200	ug/L	2.50		86.5	23-134			
Matrix Spike (BDE0149-MS1)		Source: 20E0053-02		Prepared: 05/06/2020 Analyzed: 05/07/2020						
4,4'-DDD	0.086	0.053	ug/L	0.105	BLOD	81.9	23-134			
4,4'-DDE	0.070	0.053	ug/L	0.105	BLOD	66.1	23-134			
4,4'-DDT	0.087	0.053	ug/L	0.105	BLOD	82.4	23-134			
Aldrin	0.085	0.053	ug/L	0.105	BLOD	81.2	23-134			
alpha-BHC	0.063	0.053	ug/L	0.105	BLOD	59.5	23-134			
beta-BHC	0.087	0.053	ug/L	0.105	BLOD	82.9	23-134			
delta-BHC	0.081	0.053	ug/L	0.105	BLOD	77.0	23-134			
Dieldrin	0.081	0.053	ug/L	0.105	BLOD	77.3	23-134			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0149 - SW3510C

Matrix Spike (BDE0149-MS1)	Source: 20E0053-02		Prepared: 05/06/2020 Analyzed: 05/07/2020							
Endosulfan I	0.082	0.053	ug/L	0.105	BLOD	77.7	23-134			
Endosulfan II	0.091	0.053	ug/L	0.105	BLOD	86.2	23-134			
Endosulfan sulfate	0.072	0.053	ug/L	0.105	BLOD	68.8	23-134			
Endrin	0.080	0.053	ug/L	0.105	BLOD	76.0	23-134			
Endrin aldehyde	0.075	0.053	ug/L	0.105	BLOD	71.5	23-134			
gamma-BHC (Lindane)	0.078	0.053	ug/L	0.105	BLOD	74.3	23-134			
Heptachlor	0.066	0.053	ug/L	0.105	BLOD	62.7	23-134			
Heptachlor epoxide	0.082	0.053	ug/L	0.105	BLOD	77.7	23-134			
Methoxychlor	0.097	0.053	ug/L	0.105	BLOD	92.6	23-134			
Mirex	0.065	0.053	ug/L	0.105	BLOD	61.3	23-134			
Surr: TCMX	0.117		ug/L	0.211		55.8	18-112			
Surr: DCB	0.0800		ug/L	0.211		38.0	27-131			



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Organochlorine Herbicides by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0112 - SW3510C

Blank (BDE0112-BLK1)

Prepared: 05/05/2020 Analyzed: 05/12/2020

2,4,5-T	ND	0.500	ug/L							
2,4,5-TP (Silvex)	ND	0.500	ug/L							
2,4-D	ND	0.500	ug/L							
Dinoseb	ND	0.500	ug/L							
Pentachlorophenol	ND	0.500	ug/L							

<i>Surr: DCAA (Surr)</i>	0.947		ug/L	1.11		85.2	60-112
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LCS (BDE0112-BS1)

Prepared: 05/05/2020 Analyzed: 05/12/2020

2,4,5-T	0.510	0.500	ug/L	0.556		91.8	62-145
2,4,5-TP (Silvex)	0.516	0.500	ug/L	0.556		92.9	62-132
2,4-D	0.550	0.500	ug/L	0.556		99.0	74-139
Dinoseb	0.516	0.500	ug/L	0.556		92.9	59-136
Pentachlorophenol	0.470	0.500	ug/L	0.556		84.6	62-118

<i>Surr: DCAA (Surr)</i>	1.06		ug/L	1.11		95.7	60-112
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Micro-extractables by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0069 - SW8011										
Blank (BDE0069-BLK1)				Prepared & Analyzed: 05/04/2020						
1,2-Dibromoethane (EDB)	ND	0.010	ug/L							
1,2,3-Trichloropropane	ND	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	ug/L							
LCS (BDE0069-BS1)				Prepared & Analyzed: 05/04/2020						
1,2-Dibromoethane (EDB)	0.326	0.010	ug/L	0.250		130	65-135			
1,2,3-Trichloropropane	0.310	0.010	ug/L	0.250		124	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.318	0.010	ug/L	0.250		127	65-135			
LCS Dup (BDE0069-BSD1)				Prepared & Analyzed: 05/04/2020						
1,2-Dibromoethane (EDB)	0.330	0.010	ug/L	0.250		132	65-135	1.15	20	
1,2,3-Trichloropropane	0.306	0.010	ug/L	0.250		122	65-135	1.42	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.313	0.010	ug/L	0.250		125	65-135	1.80	20	
Matrix Spike (BDE0069-MS1)				Source: 20D1067-04		Prepared & Analyzed: 05/04/2020				
1,2-Dibromoethane (EDB)	0.261	0.010	ug/L	0.251	BLOD	104	65-135			
1,2,3-Trichloropropane	0.247	0.010	ug/L	0.251	BLOD	98.3	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.225	0.010	ug/L	0.251	BLOD	89.7	65-135			
Matrix Spike (BDE0069-MS2)				Source: 20D1070-01		Prepared & Analyzed: 05/04/2020				
1,2-Dibromoethane (EDB)	0.281	0.010	ug/L	0.253	BLOD	111	65-135			
1,2,3-Trichloropropane	0.256	0.010	ug/L	0.253	BLOD	101	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.262	0.010	ug/L	0.253	BLOD	103	65-135			
Matrix Spike Dup (BDE0069-MSD1)				Source: 20D1067-04		Prepared & Analyzed: 05/04/2020				
1,2-Dibromoethane (EDB)	0.255	0.010	ug/L	0.251	BLOD	102	65-135	2.08	20	
1,2,3-Trichloropropane	0.224	0.010	ug/L	0.251	BLOD	89.0	65-135	9.93	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.221	0.010	ug/L	0.251	BLOD	88.0	65-135	1.94	20	



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Micro-extractables by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0069 - SW8011										
Matrix Spike Dup (BDE0069-MSD2)		Source: 20D1070-01			Prepared & Analyzed: 05/04/2020					
1,2-Dibromoethane (EDB)	0.278	0.010	ug/L	0.252	BLOD	110	65-135	1.11	20	
1,2,3-Trichloropropane	0.246	0.010	ug/L	0.252	BLOD	97.7	65-135	4.07	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.260	0.010	ug/L	0.252	BLOD	103	65-135	0.927	20	
Batch BDE0163 - SW8011										
Blank (BDE0163-BLK1)		Prepared & Analyzed: 05/06/2020								
1,2-Dibromoethane (EDB)	ND	0.010	ug/L							
1,2,3-Trichloropropane	ND	0.010	ug/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	ug/L							
LCS (BDE0163-BS1)		Prepared & Analyzed: 05/06/2020								
1,2-Dibromoethane (EDB)	0.321	0.010	ug/L	0.250		128	65-135			
1,2,3-Trichloropropane	0.294	0.010	ug/L	0.250		118	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.301	0.010	ug/L	0.250		120	65-135			
LCS Dup (BDE0163-BSD1)		Prepared & Analyzed: 05/06/2020								
1,2-Dibromoethane (EDB)	0.330	0.010	ug/L	0.250		132	65-135	2.79	20	
1,2,3-Trichloropropane	0.308	0.010	ug/L	0.250		123	65-135	4.38	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.312	0.010	ug/L	0.250		125	65-135	3.68	20	
Duplicate (BDE0163-DUP1)		Source: 20E0068-02			Prepared & Analyzed: 05/06/2020					
1,2-Dibromoethane (EDB)	ND	0.010	ug/L		BLOD			NA	20	
1,2,3-Trichloropropane	ND	0.010	ug/L		BLOD			NA	20	
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.010	ug/L		BLOD			NA	20	
Matrix Spike (BDE0163-MS1)		Source: 20E0002-04			Prepared & Analyzed: 05/06/2020					
1,2-Dibromoethane (EDB)	0.272	0.010	ug/L	0.253	BLOD	107	65-135			
1,2,3-Trichloropropane	0.238	0.010	ug/L	0.253	BLOD	93.9	65-135			



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
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 (804)-358-8297 - Fax

Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
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Date Issued: 5/14/2020 5:11:21PM

Micro-extractables by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0163 - SW8011

Matrix Spike (BDE0163-MS1)

Source: 20E0002-04

Prepared & Analyzed: 05/06/2020

1,2-Dibromo-3-chloropropane (DBCP)	0.239	0.010	ug/L	0.253	BLOD	94.3	65-135			
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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0119 - No Prep Wet Chem										
Blank (BDE0119-BLK1)				Prepared & Analyzed: 05/05/2020						
Sulfide	ND	1.00	mg/L							
LCS (BDE0119-BS1)				Prepared & Analyzed: 05/05/2020						
Sulfide	4.64	1	mg/L	5.00		92.8	80-120			
LCS Dup (BDE0119-BSD1)				Prepared & Analyzed: 05/05/2020						
Sulfide	4.50	1	mg/L	5.00		90.0	80-120	3.06	20	
Matrix Spike (BDE0119-MS1)				Source: 20E0002-07 Prepared & Analyzed: 05/05/2020						
Sulfide	6.00	1.00	mg/L	5.00	BLOD	120	75-125			
Matrix Spike Dup (BDE0119-MSD1)				Source: 20E0002-07 Prepared & Analyzed: 05/05/2020						
Sulfide	6.10	1.00	mg/L	5.00	BLOD	122	75-125	1.65	20	
Batch BDE0425 - No Prep Wet Chem										
Blank (BDE0425-BLK1)				Prepared: 05/12/2020 Analyzed: 05/13/2020						
Cyanide	ND	0.01	mg/L							
LCS (BDE0425-BS1)				Prepared: 05/12/2020 Analyzed: 05/13/2020						
Cyanide	0.25	0.01	mg/L	0.250		98.6	80-120			
LCS Dup (BDE0425-BSD1)				Prepared: 05/12/2020 Analyzed: 05/13/2020						
Cyanide	0.25	0.01	mg/L	0.250		98.8	80-120	0.243	20	
Matrix Spike (BDE0425-MS1)				Source: 20E0002-06 Prepared: 05/12/2020 Analyzed: 05/13/2020						
Cyanide	0.22	0.01	mg/L	0.250	BLOD	86.4	80-120			



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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0425 - No Prep Wet Chem										
Matrix Spike (BDE0425-MS2)				Source: 20E0403-01		Prepared: 05/12/2020 Analyzed: 05/13/2020				
Cyanide	0.23	0.01	mg/L	0.250	BLOD	94.0	80-120			
Matrix Spike Dup (BDE0425-MSD1)				Source: 20E0002-06		Prepared: 05/12/2020 Analyzed: 05/13/2020				
Cyanide	0.24	0.01	mg/L	0.250	BLOD	94.2	80-120	8.68	20	
Matrix Spike Dup (BDE0425-MSD2)				Source: 20E0403-01		Prepared: 05/12/2020 Analyzed: 05/13/2020				
Cyanide	0.25	0.01	mg/L	0.250	BLOD	99.6	80-120	5.79	20	



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Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.2/R2.8		
20E0002-02	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013
20E0002-03	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013
20E0002-04	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013
20E0002-05	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013
20E0002-06	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013
20E0002-07	50.0 mL / 50.0 mL	SW6010C	BDE0020	SDE0080	AE00013

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: EPA200.8 R5.4		
20E0002-02	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009
20E0002-03	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009
20E0002-04	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009
20E0002-05	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009
20E0002-06	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009
20E0002-07	50.0 mL / 50.0 mL	SW6020A	BDE0022	SDE0065	AE00009

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
20E0002-02	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-03	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-04	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-05	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-06	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-07	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0002-02	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
20E0002-03	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062
20E0002-04	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062
20E0002-05	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062
20E0002-06	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062
20E0002-07	6.00 mL / 6.00 mL	SW9012B	BDE0425	SDE0363	AE00062

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Semivolatile Organic Compounds by GCMS			Preparation Method:	SW3510C	
20E0002-02	960 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-03	940 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-04	950 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-05	940 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-06	930 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-07	920 mL / 1.00 mL	SW8270E	BDE0106	SDE0167	AD00103
20E0002-02	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-03	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-04	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-05	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-06	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-07	900 mL / 5.00 mL	SW8151A	BDE0112	SDE0320	AE00025
20E0002-02	930 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-03	920 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-04	940 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-05	940 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-06	940 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-07	940 mL / 1.00 mL	SW8081B	BDE0149	SDE0219	AD00099
20E0002-02	930 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100
20E0002-03	920 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method: SW3510C		
20E0002-04	940 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100
20E0002-05	940 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100
20E0002-06	940 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100
20E0002-07	940 mL / 1.00 mL	SW8082A	BDE0149	SDE0221	AD00100

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
20E0002-01	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-02	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-03	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-04	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-05	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-06	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095
20E0002-07	5.00 mL / 5.00 mL	SW8260D	BDE0013	SDE0034	AC00095

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
20E0002-02	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0002-03	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0002-04	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0002-05	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0002-06	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0002-07	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
20E0002-01	58.9 mL / 2.00 mL	SW8011	BDE0069	SDE0059	AD00077



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Micro-extractables by GC/ECD			Preparation Method: SW8011		
20E0002-02	59.8 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077
20E0002-03	59.5 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077
20E0002-04	59.2 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077
20E0002-05	59.4 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077
20E0002-06	59.3 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077
20E0002-07	59.0 mL / 2.00 mL	SW8011	BDE0163	SDE0148	AD00077



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Certified Analyses included in this Report

Analyte	Certifications
<i>SW6010C in Non-Potable Water</i>	
Barium	VELAP,WVDEP,PADEP
Beryllium	VELAP,WVDEP
Cadmium	VELAP,WVDEP,PADEP
Chromium	VELAP,WVDEP
Copper	VELAP,WVDEP
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP
Silver	VELAP,WVDEP,PADEP
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<i>SW6020A in Non-Potable Water</i>	
Antimony	VELAP,NC,WVDEP
Arsenic	VELAP,WVDEP
Cobalt	VELAP
Lead	VELAP,WVDEP
Thallium	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8011 in Non-Potable Water</i>	
1,2-Dibromoethane (EDB)	VELAP,NC
1,2,3-Trichloropropane	VELAP,NC
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NC
<i>SW8081B in Non-Potable Water</i>	
4,4'-DDD	NC,VELAP,WVDEP



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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
4,4'-DDE	NC,VELAP,WVDEP
4,4'-DDT	NC,VELAP,WVDEP
Aldrin	NC,VELAP,WVDEP
alpha-BHC	NC,VELAP,WVDEP
alpha-Chlordane	NC,VELAP,WVDEP
beta-BHC	NC,VELAP,WVDEP
Chlordane	NC,VELAP,WVDEP
delta-BHC	NC,VELAP,WVDEP
Dieldrin	NC,VELAP,WVDEP
Endosulfan I	NC,VELAP,WVDEP
Endosulfan II	NC,VELAP,WVDEP
Endosulfan sulfate	NC,VELAP,WVDEP
Endrin	NC,VELAP,WVDEP
Endrin aldehyde	NC,VELAP,WVDEP
Endrin ketone	NC,VELAP,WVDEP
gamma-BHC (Lindane)	NC,VELAP,WVDEP
gamma-Chlordane	NC,VELAP,WVDEP
Heptachlor	NC,VELAP,WVDEP
Heptachlor epoxide	NC,VELAP,WVDEP
Methoxychlor	NC,VELAP,WVDEP
Toxaphene	NC,VELAP,WVDEP
SW8082A in Non-Potable Water	
PCB as Aroclor 1016	VELAP,NC,WVDEP
PCB as Aroclor 1221	VELAP,NC,WVDEP
PCB as Aroclor 1232	VELAP,NC,WVDEP
PCB as Aroclor 1242	VELAP,NC,WVDEP
PCB as Aroclor 1248	VELAP,NC,WVDEP
PCB as Aroclor 1254	VELAP,NC,WVDEP



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Certified Analyses included in this Report

Analyte	Certifications
PCB as Aroclor 1260	VELAP,NC,WVDEP
SW8151A in Non-Potable Water	
2,4,5-T	VELAP,NC
2,4,5-TP (Silvex)	VELAP,NC
2,4-D	VELAP,NC
Dinoseb	VELAP,NC
Pentachlorophenol	VELAP,NC
SW8260D in Non-Potable Water	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,1-Dichloropropene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2,4-Trichlorobenzene	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP
1,2-Dichloropropane	NC,VELAP,WVDEP
1,3-Dichlorobenzene	NC,VELAP,WVDEP
1,3-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2,2-Dichloropropane	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP



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<u>Analyte</u>	<u>Certifications</u>
Acetonitrile	NC,VELAP,WVDEP
Acrolein	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Allyl chloride	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
Chloroprene	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethyl methacrylate	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
Isobutyl Alcohol	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methacrylonitrile	NC,VELAP,WVDEP
Methyl methacrylate	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Certified Analyses included in this Report

Analyte	Certifications
Methylene chloride	NC,VELAP,WVDEP
o-Xylene	NC,VELAP,WVDEP
Propionitrile	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
<i>SW8270E in Non-Potable Water</i>	
1,2,4,5-Tetrachlorobenzene	NC,VELAP,WVDEP
1,3,5-Trinitrobenzene	NC,VELAP,WVDEP
1,3-Dinitrobenzene	NC,VELAP,WVDEP
1,4-Naphthoquinone	NC,VELAP,WVDEP
1-Naphthylamine	NC,VELAP,WVDEP
2,3,4,6-Tetrachlorophenol	NC,VELAP,WVDEP
2,4,5-Trichlorophenol	NC,VELAP,WVDEP
2,4,6-Trichlorophenol	NC,VELAP,WVDEP
2,4-Dichlorophenol	NC,VELAP,WVDEP
2,4-Dimethylphenol	NC,VELAP,WVDEP
2,4-Dinitrophenol	NC,VELAP,WVDEP
2,4-Dinitrotoluene	NC,VELAP,WVDEP
2,6-Dichlorophenol	NC,VELAP,WVDEP



Certificate of Analysis

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Date Issued: 5/14/2020 5:11:21PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
2,6-Dinitrotoluene	NC,VELAP,WVDEP
2-Acetylaminofluorene	NC,VELAP,WVDEP
2-Chloronaphthalene	NC,VELAP,WVDEP
2-Chlorophenol	NC,VELAP,WVDEP
2-Methylnaphthalene	NC,VELAP,WVDEP
2-Naphthylamine	NC,VELAP,WVDEP
2-Nitroaniline	NC,VELAP,WVDEP
2-Nitrophenol	NC,VELAP,WVDEP
3,3'-Dichlorobenzidine	NC,VELAP,WVDEP
3,3'-Dimethylbenzidine	NC,VELAP,WVDEP
3-Methylcholanthrene	NC,VELAP,WVDEP
3-Nitroaniline	NC,VELAP,WVDEP
4,6-Dinitro-2-methylphenol	NC,VELAP,WVDEP
4-Aminobiphenyl	NC,VELAP,WVDEP
4-Bromophenyl phenyl ether	NC,VELAP,WVDEP
4-Chloroaniline	NC,VELAP,WVDEP
4-Chlorophenyl phenyl ether	NC,VELAP,WVDEP
4-Nitroaniline	NC,VELAP,WVDEP
4-Nitrophenol	NC,VELAP,WVDEP
5-Nitro-o-toluidine	NC,VELAP,WVDEP
7,12-Dimethylbenz (a) anthracene	NC,VELAP,WVDEP
Acenaphthene	NC,VELAP,WVDEP
Acenaphthylene	NC,VELAP,WVDEP
Acetophenone	NC,VELAP,WVDEP
Anthracene	NC,VELAP,WVDEP
Benzo (a) anthracene	NC,VELAP,WVDEP
Benzo (a) pyrene	NC,VELAP,WVDEP
Benzo (b) fluoranthene	NC,VELAP,WVDEP



Certificate of Analysis

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Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Benzo (g,h,i) perylene	NC,VELAP,WVDEP
Benzo (k) fluoranthene	NC,VELAP,WVDEP
Benzyl alcohol	NC,VELAP,WVDEP
bis (2-Chloroethoxy) methane	NC,VELAP,WVDEP
bis (2-Chloroethyl) ether	NC,VELAP,WVDEP
2,2'-Oxybis (1-chloropropane)	NC,VELAP,WVDEP
bis (2-Ethylhexyl) phthalate	NC,VELAP,WVDEP
Butyl benzyl phthalate	NC,VELAP,WVDEP
Chlorobenzilate	NC,VELAP,WVDEP
Chrysene	NC,VELAP,WVDEP
Diallate	NC,VELAP,WVDEP
Dibenz (a,h) anthracene	NC,VELAP,WVDEP
Dibenzofuran	NC,VELAP,WVDEP
Diethyl phthalate	NC,VELAP,WVDEP
Dimethoate	NC,VELAP,WVDEP
Dimethyl phthalate	NC,VELAP,WVDEP
Di-n-butyl phthalate	NC,VELAP,WVDEP
Di-n-octyl phthalate	NC,VELAP,WVDEP
Diphenylamine	NC,VELAP,WVDEP
Disulfoton	NC,VELAP,WVDEP
Ethyl methanesulfonate	NC,VELAP,WVDEP
Ethyl parathion	NC,VELAP,WVDEP
Famphur	NC,VELAP,WVDEP
Fluoranthene	NC,VELAP,WVDEP
Fluorene	NC,VELAP,WVDEP
Hexachlorobenzene	NC,VELAP,WVDEP
Hexachlorobutadiene	NC,VELAP,WVDEP
Hexachlorocyclopentadiene	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
Hexachloroethane	NC,VELAP,WVDEP
Hexachloropropene	NC,VELAP,WVDEP
Indeno (1,2,3-cd) pyrene	NC,VELAP,WVDEP
Isodrin	NC,VELAP,WVDEP
Isophorone	NC,VELAP,WVDEP
Isosafrole	NC,VELAP,WVDEP
Kepone	NC,VELAP,WVDEP
m+p-Cresols	NC,VELAP,WVDEP
Methapyrilene	NC,VELAP,WVDEP
Methyl methanesulfonate	NC,VELAP,WVDEP
Methyl parathion	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP
Nitrobenzene	NC,VELAP,WVDEP
n-Nitrosodiethylamine	NC,VELAP,WVDEP
n-Nitrosodimethylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-butylamine	NC,VELAP,WVDEP
n-Nitrosodi-n-propylamine	NC,VELAP,WVDEP
n-Nitrosodiphenylamine	NC,VELAP,WVDEP
n-Nitrosomethylethylamine	NC,VELAP,WVDEP
n-Nitrosopiperidine	NC,VELAP,WVDEP
n-Nitrosopyrrolidine	NC,VELAP,WVDEP
o,o,o-Triethyl phosphorothioate	NC,VELAP,WVDEP
o,o-Diethyl o-2-pyrazinyl phosphorothioate	NC,VELAP,WVDEP
o+m+p-Cresols	VELAP,WVDEP
o-Cresol	NC,VELAP,WVDEP
o-Toluidine	NC,VELAP,WVDEP
p-(Dimethylamino) azobenzene	NC,VELAP,WVDEP
p-Chloro-m-cresol	NC,VELAP,WVDEP



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Certified Analyses included in this Report

Analyte	Certifications
Pentachlorobenzene	NC,VELAP,WVDEP
Pentachloronitrobenzene (quintozene)	NC,VELAP,WVDEP
Phenacetin	NC,VELAP,WVDEP
Phenanthrene	NC,VELAP,WVDEP
Phenol	NC,VELAP,WVDEP
Phorate	NC,VELAP,WVDEP
p-Phenylenediamine	NC,VELAP,WVDEP
Pronamide	NC,VELAP,WVDEP
Pyrene	NC,VELAP,WVDEP
Safrole	NC,VELAP,WVDEP

SW9012B in Non-Potable Water

Cyanide VELAP

SW9215 in Non-Potable Water

Sulfide VELAP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
NCDOH	North Carolina Department of Health	51714	07/31/2020
NJDEP	New Jersey DEP	VA015	06/30/2020
PADEP	NELAC-Pennsylvania Certificate #005	68-03503	10/31/2020
VELAP	NELAC-Virginia Certificate #10637	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2020



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Qualifiers and Definitions

- B Blank contamination. The recorded result is associated with a contaminated blank.
- C Continuing calibration verification response for this analyte is outside specifications.
- Cl Residual Chlorine or other oxidizing agent was detected in the container used to analyze this sample.
- J The reported result is an estimated value.
- L LCS recovery is outside of established acceptance limits
- M Matrix spike recovery is outside established acceptance limits
- S Surrogate recovery was outside acceptance criteria
- RPD Relative Percent Difference
- Qual Qualifiers
- RE Denotes sample was re-analyzed
- LOD Limit of Detection
- BLOD Below Limit of Detection
- LOQ Limit of Quantitation
- DF Dilution Factor
- TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
- PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1541 REYNET ROAD
 RICHMOND, VIRGINIA 23227
 (804) 258-8295 PHONE
 (804) 258-8297 FAX

Chain of Custody
 Effective May 15, 2014

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Golden Associates	INVOICE TO: Calver County	PROJECT NAME/Quote #: VA10 Compliance GW
CONTACT: Michele Clary	INVOICE CONTACT: Paul Howard	SITE NAME: Laurel Valley Compliance Wells - 2017 L F
ADDRESS: 2108 W. Laburnum Ave, Suite 200	INVOICE ADDRESS:	PROJECT NUMBER: 1905141-100
PHONE #: 804-358-7960	INVOICE PHONE #:	P.O. #:
FAX #: (804) 358-7960	EMAIL: supply@golden.com	Pretreatment Program:

Is sample for compliance reporting? YES NO Regulatory State: **VA** Is sample from a chlorinated supply? YES NO YES PWS ID #:

SAMPLER NAME (PRINT): **Mr. Taylor / G. Swain** SAMPLER SIGNATURE: *[Signature]* Turn Around Time: Circle **10** 5 Days or Day(s)

Matrix Codes: SW-Surface Water/Storm Water GW-Ground Water CW-Drinking Water B-BioSolids OW-Organic A-Air SW-Solid CP-Crude

CLIENT SAMPLE ID:	Grab	Composite	Field Filtered (Disinfectant Resistant)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)				COMMENTS		
											MSM	MSM	MSM	MSM			
1 Top Blank	X																
2 TSW-1B	X					4-11-2017	12:00	15:00		1							*Cancel Co via SW-6018 in 3.10 test code
3 TSW-2B	X					4-11-2017	12:00	15:00		1	X	X	X	X			PLACE DATE TIME/INITIALS/STATION/ID/DATE/TIME/ANALYST
4 TSW-3B	X					4-11-2017	12:00	15:00		1	X	X	X	X			* See Sample placed in TSW
5 TSW-4	X					4-11-2017	12:00	15:00		1	X	X	X	X			
6 TSW-5B	X					4-11-2017	12:00	15:00		1	X	X	X	X			
7 Field Blank	X					4-11-2017	12:00	15:00		1	X	X	X	X			
8																	
9																	
10																	

RECEIVED: <i>[Signature]</i> DATE/TIME: 4-30-2017 4:30 PM	RECEIVED: EM 4:20 PM DATE/TIME: 16:15	LAB USE ONLY: Chain ID: 271 COOLER TEMP: 2.9 °C
RECEIVED: DATE/TIME:	RECEIVED: DATE/TIME:	GA 20E0002
RECEIVED: DATE/TIME:	RECEIVED: DATE/TIME: Levy	Laurel Valley Compliance Wells
		Rec'd: 05/01/2018 Due: 05/15



Sample Preservation Log

Sample Preservation Log
 Form # 7100
 Rev 8/10
 October 10, 2008
 Page 1 of 1

Order # 2000001

Date Performed 15/01/2010

Analyst Performing Check SP/NA

Sample ID	ID	Metals		Organics		Nutrients		Anions		TSS		Phos. Sp.		NO3-NO2		DNO		Pesticide Residues		SVOC		COC		Pesticide (M&T)		Other			
		As	Cd	Cu	Pb	Mn	Ni	Cr	Fe	Co	Zn	Ag	Al	Ca	Mg	Na	K	Cl	SO4	NO3	NO2	Chloro	Bromo	Fluoro	PCP	DDT	PCB	PCDD	PCDF
01	A																												
02	B	✓																											
02	G					✓																							
04	H																		✓			✓							
03	A																												
03	B	4-23																											
03	G					✓																							
03	H																		✓			✓							
04	A																												
04	B	✓																											
04	G					✓																							
04	H																		✓			✓							
05	A																												
05	B	✓																											
05	G					✓																							

NaOH ID: _____ HNO3 ID: 0101131g (COC preserved solutions) _____ Analyte Initials: _____
 Full must be adjusted between 6.3-6.7
 Buffer Salt ID: _____
 HCl ID: _____ NaOH ID: _____ 1% NaOH ID: _____ 5% NaOH: _____

Metals were received with pH = 4. HNO3 was added at 1045 on May 05 2010 by Robert Manning in the Metals of pH=2. Page 142 of 144

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Sample Preservation Log

Sample Preservation Log
 Form # 11000
 Rev. 8/00
 Effective Date 12, 2018
 Page 1 of 1

Date: 20 E 2002

Date Performed: 05/01/2020

Analyst Performing Check: ESM

Sample ID	Well	Matrix	Organics	Nutrients	Ammonia	TKN	Phos. Tot	NO3-NO2	DO	Pesticide Residues		SVOC		VOC		Metals		
										Metals	Organics	Metals	Organics	Metals	Organics	Metals	Organics	
05	H									✓		✓						
06	A									✓		✓						
06	D			✓														
06	C	✓																
06	E		✓															
07	A		✓															
07	5	✓																
07	6			✓														
07	H									✓		✓						

NaOH ID: _____ NaOH ID: _____ CMA preserved date/time: _____ Analyst Initials: _____
 NaOH ID: _____ NaOH ID: _____ * pH must be adjusted between 8.0 - 8.7
 NaOH ID: _____ NaOH ID: _____ Buffer Salt ID: _____
 NaOH ID: _____ NaOH ID: _____ 1% NaOH ID: _____ 5% NaOH: _____

For more information, please contact the CMAA or the National Ground Water Association for more info.



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:11:21PM

Sample Conditions Checklist

Samples Received at:	2.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

Trip Blank date and time (13 April 2020/13.30) as per bottle label. THM 1 May 2020/13.36



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-01 Client Sample ID: MW-X1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	01	SW6010C	0.0808		0.0030	0.0040	1	mg/L
Acetone	01	SW8260D	9.07	J	7.00	10.0	1	ug/L
Chlorobenzene	01	SW8260D	0.81	J	0.40	1.00	1	ug/L
Toluene	01	SW8260D	1.10		0.50	1.00	1	ug/L

Laboratory Sample ID: 20E0001-02 Client Sample ID: MW-X2

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	02	RSK175M	32.9		2.9	5.0	1	ug/L
Alkalinity	02	SM22 2320B-2011	145		5.0	5.0	1	mg/L
Chloride	02	EPA300.0 R2.1	20.2		0.5	1.0	1	mg/L
Sulfate	02	EPA300.0 R2.1	5.4		0.5	1.0	1	mg/L

Laboratory Sample ID: 20E0001-04 Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	04	SM22 2320B-2011	13.0		5.0	5.0	1	mg/L
Chloride	04	EPA300.0 R2.1	2.2		0.5	1.0	1	mg/L
Nitrate as N	04	Calc.	0.363		0.110	0.150	1	mg/L
Nitrate+Nitrite as N	04	SM22 4500-NO3F-2011	0.36		0.10	0.10	1	mg/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-06 Client Sample ID: CLF-1

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	06	SW6010C	0.0740		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	06	SW8260D	1.25		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	06	SW8260D	7.89		0.40	1.00	1	ug/L
Benzene	06	SW8260D	1.87		0.40	1.00	1	ug/L
Chlorobenzene	06	SW8260D	5.35		0.40	1.00	1	ug/L
Chloroethane	06	SW8260D	0.87	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	06	SW8260D	5.24		0.40	1.00	1	ug/L
Trichloroethylene	06	SW8260D	0.79	J	0.40	1.00	1	ug/L
Vinyl chloride	06	SW8260D	0.61		0.50	0.50	1	ug/L

Laboratory Sample ID: 20E0001-07 Client Sample ID: CLF-15A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	07	SW8260D	7.48		0.60	1.00	1	ug/L
1,2-Dichloroethane	07	SW8260D	0.83	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	07	SW8260D	13.7		0.40	1.00	1	ug/L
Trichloroethylene	07	SW8260D	7.05		0.40	1.00	1	ug/L
Methane	07	RSK175M	424		2.9	5.0	1	ug/L
Alkalinity	07	SM22 2320B-2011	138		5.0	5.0	1	mg/L
Chloride	07RE1	EPA300.0 R2.1	140		5.0	10.0	10	mg/L
Sulfate	07RE1	EPA300.0 R2.1	139		5.0	10.0	10	mg/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-08 Client Sample ID: PZ-4E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
cis-1,2-Dichloroethylene	08	SW8260D	0.85	J	0.40	1.00	1	ug/L
Tetrachloroethylene (PCE)	08	SW8260D	0.46	J	0.40	1.00	1	ug/L
Trichloroethylene	08	SW8260D	0.58	J	0.40	1.00	1	ug/L
Vinyl chloride	08	SW8260D	0.68		0.50	0.50	1	ug/L
Methane	08RE1	RSK175M	2580		14.5	25.0	5	ug/L
Alkalinity	08	SM22 2320B-2011	31.0		5.0	5.0	1	mg/L
Chloride	08	EPA300.0 R2.1	2.8		0.5	1.0	1	mg/L

Laboratory Sample ID: 20E0001-09 Client Sample ID: CLF-S3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Mercury	09	SW7470A	0.00053		0.00020	0.00020	1	mg/L
1,1-Dichloroethane	09	SW8260D	0.74	J	0.60	1.00	1	ug/L
Alkalinity	09	SM22 2320B-2011	73.0		5.0	5.0	1	mg/L
Chloride	09	EPA300.0 R2.1	5.1		0.5	1.0	1	mg/L
Nitrate as N	09	Calc.	0.248		0.110	0.150	1	mg/L
Nitrate+Nitrite as N	09	SM22 4500-NO3F-2011	0.25		0.10	0.10	1	mg/L
Sulfate	09	EPA300.0 R2.1	44.7		0.5	1.0	1	mg/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-11 Client Sample ID: MW-1C

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	11	SW6010C	0.0355		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	11	SW8260D	15.8		0.60	1.00	1	ug/L
1,2-Dichloroethane	11	SW8260D	0.84	J	0.70	1.00	1	ug/L
1,2-Dichloropropane	11	SW8260D	0.99	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	11	SW8260D	5.09		0.40	1.00	1	ug/L
Benzene	11	SW8260D	1.14		0.40	1.00	1	ug/L
Chlorobenzene	11	SW8260D	2.21		0.40	1.00	1	ug/L
Chloroethane	11	SW8260D	2.39		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	11	SW8260D	17.7		0.40	1.00	1	ug/L
Trichloroethylene	11	SW8260D	0.93	J	0.40	1.00	1	ug/L
Vinyl chloride	11	SW8260D	5.02		0.50	0.50	1	ug/L

Laboratory Sample ID: 20E0001-12 Client Sample ID: MW-1D

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	12	SW6010C	0.0201		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	12	SW8260D	0.97	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	12	SW8260D	3.18		0.40	1.00	1	ug/L
Benzene	12	SW8260D	0.92	J	0.40	1.00	1	ug/L
Chlorobenzene	12	SW8260D	1.70		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	12	SW8260D	9.29		0.40	1.00	1	ug/L
Vinyl chloride	12	SW8260D	3.17		0.50	0.50	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-13 Client Sample ID: MW-1E

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	13	SW8260D	3.57		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	13	SW8260D	2.45		0.40	1.00	1	ug/L
Benzene	13	SW8260D	1.64		0.40	1.00	1	ug/L
Chlorobenzene	13	SW8260D	1.18		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	13	SW8260D	32.0		0.40	1.00	1	ug/L
Trichloroethylene	13	SW8260D	3.26		0.40	1.00	1	ug/L
Vinyl chloride	13	SW8260D	8.50		0.50	0.50	1	ug/L

Laboratory Sample ID: 20E0001-14 Client Sample ID: MW-1F

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	14	SW8260D	4.57		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	14	SW8260D	1.22		0.40	1.00	1	ug/L
Benzene	14	SW8260D	1.47		0.40	1.00	1	ug/L
Chlorobenzene	14	SW8260D	0.50	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	14	SW8260D	35.9		0.40	1.00	1	ug/L
Trichloroethylene	14	SW8260D	3.04		0.40	1.00	1	ug/L
Vinyl chloride	14	SW8260D	8.81		0.50	0.50	1	ug/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-15 Client Sample ID: MW-1G

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	15	SW6010C	0.0095		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	15	SW8260D	4.45		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	15	SW8260D	0.42	J	0.40	1.00	1	ug/L
Benzene	15	SW8260D	0.72	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	15	SW8260D	18.6		0.40	1.00	1	ug/L
Trichloroethylene	15	SW8260D	1.73		0.40	1.00	1	ug/L
Vinyl chloride	15	SW8260D	3.49		0.50	0.50	1	ug/L

Laboratory Sample ID: 20E0001-16 Client Sample ID: MW-1H

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	16	SW8260D	2.59		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	16	SW8260D	0.47	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	16	SW8260D	13.0		0.40	1.00	1	ug/L
Trichloroethylene	16	SW8260D	1.19		0.40	1.00	1	ug/L
Vinyl chloride	16	SW8260D	4.00		0.50	0.50	1	ug/L

Laboratory Sample ID: 20E0001-18 Client Sample ID: MW-3

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	18	SW6010C	0.0033	J	0.0030	0.0040	1	mg/L



Analysis Detects Report

Client Name: Golder Associates, Inc.
 Client Site ID: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Laboratory Sample ID: 20E0001-20 Client Sample ID: MW-6

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	20	SW6010C	0.134		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	20	SW8260D	0.69	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	20	SW8260D	11.0		0.40	1.00	1	ug/L
Benzene	20	SW8260D	1.30		0.40	1.00	1	ug/L
Chlorobenzene	20	SW8260D	4.21		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	20	SW8260D	3.46		0.40	1.00	1	ug/L
Toluene	20	SW8260D	19.1		0.50	1.00	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the "Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 20E0001

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave. Suite 200
Richmond, VA 23227

Date Received: April 30, 2020 16:14
Date Issued: May 14, 2020 17:13
Project Number: 19115362.200
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley LF

Enclosed are the results of analyses for samples received by the laboratory on 04/30/2020 16:14. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads "Ted Soyars".

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-X1	20E0001-01	Ground Water	04/29/2020 12:45	04/30/2020 16:14
MW-X2	20E0001-02	Ground Water	04/30/2020 10:25	04/30/2020 16:14
MW-X2D	20E0001-03	Ground Water	04/30/2020 10:07	04/30/2020 16:14
MW-20	20E0001-04	Ground Water	04/30/2020 09:00	04/30/2020 16:14
CLF-S1	20E0001-05	Ground Water	04/30/2020 11:25	04/30/2020 16:14
CLF-1	20E0001-06	Ground Water	04/30/2020 10:10	04/30/2020 16:14
CLF-15A	20E0001-07	Ground Water	04/30/2020 11:25	04/30/2020 16:14
PZ-4E	20E0001-08	Ground Water	04/30/2020 11:42	04/30/2020 16:14
CLF-S3	20E0001-09	Ground Water	04/30/2020 10:40	04/30/2020 16:14
Trip Blank	20E0001-10	Ground Water	04/13/2020 13:30	04/30/2020 16:14
MW-1C	20E0001-11	Ground Water	04/29/2020 11:00	04/30/2020 16:14
MW-1D	20E0001-12	Ground Water	04/29/2020 14:05	04/30/2020 16:14
MW-1E	20E0001-13	Ground Water	04/29/2020 13:35	04/30/2020 16:14
MW-1F	20E0001-14	Ground Water	04/30/2020 09:15	04/30/2020 16:14
MW-1G	20E0001-15	Ground Water	04/30/2020 08:40	04/30/2020 16:14
MW-1H	20E0001-16	Ground Water	04/29/2020 12:55	04/30/2020 16:14
MW-1I	20E0001-17	Ground Water	04/28/2020 11:25	04/30/2020 16:14
MW-3	20E0001-18	Ground Water	04/29/2020 12:02	04/30/2020 16:14
MW-5	20E0001-19	Ground Water	04/29/2020 10:50	04/30/2020 16:14
MW-6	20E0001-20	Ground Water	04/29/2020 13:10	04/30/2020 16:14



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X1

Laboratory Sample ID: 20E0001-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	01	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:41	0.0808		0.0030	0.0040	1	mg/L	SNL
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	01	75-34-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	01	106-46-7	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	9.07	J	7.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	01	71-43-2	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		5.00	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X1

Laboratory Sample ID: 20E0001-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Carbon tetrachloride	01	56-23-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	01	108-90-7	SW8260D	05/01/2020 14:01	05/01/2020 14:01	0.81	J	0.40	1.00	1	ug/L	KCS
Chloroethane	01	75-00-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	01	156-59-2	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-95-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	01	91-20-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	01	108-88-3	SW8260D	05/01/2020 14:01	05/01/2020 14:01	1.10		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X1

Laboratory Sample ID: 20E0001-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Trichlorofluoromethane	01	75-69-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	05/01/2020 14:01	05/01/2020 14:01	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>01</i>	<i>99.2 %</i>	<i>70-120</i>	<i>05/01/2020 14:01</i>	<i>05/01/2020 14:01</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>01</i>	<i>101 %</i>	<i>75-120</i>	<i>05/01/2020 14:01</i>	<i>05/01/2020 14:01</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>01</i>	<i>103 %</i>	<i>70-130</i>	<i>05/01/2020 14:01</i>	<i>05/01/2020 14:01</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>01</i>	<i>99.3 %</i>	<i>70-130</i>	<i>05/01/2020 14:01</i>	<i>05/01/2020 14:01</i>							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	02	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:33	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	02	75-34-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	02	95-50-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	02	106-46-7	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	02	71-43-2	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	02	108-90-7	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	02	75-00-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	02	156-59-2	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	02	100-42-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	02	79-01-6	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	02	1330-20-7	SW8260D	05/01/2020 13:06	05/01/2020 13:06	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	02	101 %	70-120	05/01/2020 13:06	05/01/2020 13:06							
Surr: 4-Bromofluorobenzene (Surr)	02	99.8 %	75-120	05/01/2020 13:06	05/01/2020 13:06							
Surr: Dibromofluoromethane (Surr)	02	102 %	70-130	05/01/2020 13:06	05/01/2020 13:06							
Surr: Toluene-d8 (Surr)	02	98.8 %	70-130	05/01/2020 13:06	05/01/2020 13:06							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	02	74-82-8	RSK175M	05/01/2020 13:45	05/01/2020 13:45	32.9		2.9	5.0	1	ug/L	HLM
Surr: Acetylene (Surr)	02	117 %	70-130	05/01/2020 13:45	05/01/2020 13:45							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2

Laboratory Sample ID: 20E0001-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	02	NA	SM22 2320B-2011	05/09/2020 08:10	05/09/2020 08:10	145		5.0	5.0	1	mg/L	WAM
Chloride	02	16887-00-6	EPA300.0 R2.1	05/04/2020 14:15	05/04/2020 14:15	20.2		0.5	1.0	1	mg/L	SKS
Nitrate as N	02	14797-55-8	Calc.	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.110	0.150	1	mg/L	MJRL
Nitrate+Nitrite as N	02	E701177	SM22 4500-NO3F- 2011	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.10	0.10	1	mg/L	JH
Nitrite as N	02	14797-65-0	SM22 4500-NO2B- 2011	05/01/2020 09:50	05/01/2020 09:50	BLOD		0.01	0.05	1	mg/L	MJRL
Sulfate	02	14808-79-8	EPA300.0 R2.1	05/04/2020 14:15	05/04/2020 14:15	5.4		0.5	1.0	1	mg/L	SKS
Sulfide	02	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 20E0001-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	03	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:35	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 20E0001-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	03	71-43-2	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 20E0001-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	03	75-00-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	03	100-42-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	03	75-01-4	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 20E0001-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	03	1330-20-7	SW8260D	05/01/2020 14:28	05/01/2020 14:28	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	03	97.4 %	70-120	05/01/2020 14:28	05/01/2020 14:28							
Surr: 4-Bromofluorobenzene (Surr)	03	100 %	75-120	05/01/2020 14:28	05/01/2020 14:28							
Surr: Dibromofluoromethane (Surr)	03	103 %	70-130	05/01/2020 14:28	05/01/2020 14:28							
Surr: Toluene-d8 (Surr)	03	98.3 %	70-130	05/01/2020 14:28	05/01/2020 14:28							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0001-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	04	74-82-8	RSK175M	05/01/2020 12:20	05/01/2020 12:20	BLOD		2.9	5.0	1	ug/L	HLM
Surr: Acetylene (Surr)	04	118 %	70-130	05/01/2020 12:20	05/01/2020 12:20							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0001-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	04	NA	SM22 2320B-2011	05/09/2020 08:10	05/09/2020 08:10	13.0		5.0	5.0	1	mg/L	WAM
Chloride	04	16887-00-6	EPA300.0 R2.1	05/04/2020 14:39	05/04/2020 14:39	2.2		0.5	1.0	1	mg/L	SKS
Nitrate as N	04	14797-55-8	Calc.	05/12/2020 15:25	05/12/2020 15:25	0.363		0.110	0.150	1	mg/L	MJRL
Nitrate+Nitrite as N	04	E701177	SM22 4500-NO3F- 2011	05/12/2020 15:25	05/12/2020 15:25	0.36		0.10	0.10	1	mg/L	JH
Nitrite as N	04	14797-65-0	SM22 4500-NO2B- 2011	05/01/2020 09:50	05/01/2020 09:50	BLOD		0.01	0.05	1	mg/L	MJRL
Sulfate	04	14808-79-8	EPA300.0 R2.1	05/04/2020 14:39	05/04/2020 14:39	BLOD		0.5	1.0	1	mg/L	SKS
Sulfide	04	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 20E0001-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	05	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:37	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 20E0001-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	05	71-43-2	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 20E0001-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	05	75-00-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	05	100-42-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 20E0001-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	05	1330-20-7	SW8260D	05/01/2020 14:55	05/01/2020 14:55	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	05	97.0 %	70-120	05/01/2020 14:55	05/01/2020 14:55							
Surr: 4-Bromofluorobenzene (Surr)	05	101 %	75-120	05/01/2020 14:55	05/01/2020 14:55							
Surr: Dibromofluoromethane (Surr)	05	102 %	70-130	05/01/2020 14:55	05/01/2020 14:55							
Surr: Toluene-d8 (Surr)	05	98.2 %	70-130	05/01/2020 14:55	05/01/2020 14:55							



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-1

Laboratory Sample ID: 20E0001-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	06	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:45	0.0740		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-1

Laboratory Sample ID: 20E0001-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	06	71-55-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	06	79-00-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	06	75-34-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	1.25		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	06	75-35-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	06	96-18-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	06	95-50-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	06	107-06-2	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	06	78-87-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	06	106-46-7	SW8260D	05/01/2020 15:21	05/01/2020 15:21	7.89		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	06	78-93-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	06	591-78-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	06	67-64-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	06	107-13-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	06	71-43-2	SW8260D	05/01/2020 15:21	05/01/2020 15:21	1.87		0.40	1.00	1	ug/L	KCS
Bromochloromethane	06	74-97-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	06	75-27-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	06	75-25-2	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	06	74-83-9	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	06	75-15-0	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	06	56-23-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	06	108-90-7	SW8260D	05/01/2020 15:21	05/01/2020 15:21	5.35		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-1

Laboratory Sample ID: 20E0001-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	06	75-00-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	0.87	J	0.70	1.00	1	ug/L	KCS
Chloroform	06	67-66-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	06	74-87-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	06	156-59-2	SW8260D	05/01/2020 15:21	05/01/2020 15:21	5.24		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	06	10061-01-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	06	124-48-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	06	74-95-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	06	75-71-8	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	06	100-41-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	06	74-88-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	06	179601-23-1	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	06	75-09-2	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	06	91-20-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	06	95-47-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	06	100-42-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	06	127-18-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	06	108-88-3	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	06	156-60-5	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	06	10061-02-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	06	79-01-6	SW8260D	05/01/2020 15:21	05/01/2020 15:21	0.79	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	06	75-69-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	06	108-05-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		2.00	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-1

Laboratory Sample ID: 20E0001-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	06	75-01-4	SW8260D	05/01/2020 15:21	05/01/2020 15:21	0.61		0.50	0.50	1	ug/L	KCS
Xylenes, Total	06	1330-20-7	SW8260D	05/01/2020 15:21	05/01/2020 15:21	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	06	102 %	70-120	05/01/2020 15:21	05/01/2020 15:21							
Surr: 4-Bromofluorobenzene (Surr)	06	101 %	75-120	05/01/2020 15:21	05/01/2020 15:21							
Surr: Dibromofluoromethane (Surr)	06	104 %	70-130	05/01/2020 15:21	05/01/2020 15:21							
Surr: Toluene-d8 (Surr)	06	100 %	70-130	05/01/2020 15:21	05/01/2020 15:21							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	07	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:39	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	07	71-55-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	07	79-34-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	07	79-00-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	07	75-34-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	7.48		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	07	75-35-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	07	96-18-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	07	95-50-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	07	107-06-2	SW8260D	05/01/2020 15:48	05/01/2020 15:48	0.83	J	0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	07	78-87-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	07	106-46-7	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	07	78-93-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	07	591-78-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	07	67-64-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	07	107-13-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	07	71-43-2	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	07	74-97-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	07	75-27-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	07	75-25-2	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	07	74-83-9	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	07	75-15-0	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	07	56-23-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	07	108-90-7	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	07	75-00-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	07	67-66-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	07	74-87-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	07	156-59-2	SW8260D	05/01/2020 15:48	05/01/2020 15:48	13.7		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	07	10061-01-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	07	124-48-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	07	74-95-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	07	75-71-8	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	07	100-41-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	07	74-88-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	07	179601-23-1	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	07	75-09-2	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	07	95-47-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	07	100-42-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	07	127-18-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	07	108-88-3	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	07	156-60-5	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	07	10061-02-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	07	79-01-6	SW8260D	05/01/2020 15:48	05/01/2020 15:48	7.05		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	07	75-69-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	07	108-05-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	07	75-01-4	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	07	1330-20-7	SW8260D	05/01/2020 15:48	05/01/2020 15:48	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	07	102 %	70-120	05/01/2020 15:48	05/01/2020 15:48							
Surr: 4-Bromofluorobenzene (Surr)	07	101 %	75-120	05/01/2020 15:48	05/01/2020 15:48							
Surr: Dibromofluoromethane (Surr)	07	106 %	70-130	05/01/2020 15:48	05/01/2020 15:48							
Surr: Toluene-d8 (Surr)	07	99.3 %	70-130	05/01/2020 15:48	05/01/2020 15:48							



Certificate of Analysis

Client Name: Golder Associates, Inc.
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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	07	74-82-8	RSK175M	05/01/2020 12:33	05/01/2020 12:33	424		2.9	5.0	1	ug/L	HLM
Surr: Acetylene (Surr)	07	120 %	70-130	05/01/2020 12:33	05/01/2020 12:33							



Certificate of Analysis

Client Name: Golder Associates, Inc.
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Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 20E0001-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	07	NA	SM22 2320B-2011	05/09/2020 08:10	05/09/2020 08:10	138		5.0	5.0	1	mg/L	WAM
Chloride	07RE1	16887-00-6	EPA300.0 R2.1	05/05/2020 16:46	05/05/2020 16:46	140		5.0	10.0	10	mg/L	BG
Nitrate as N	07	14797-55-8	Calc.	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.110	0.150	1	mg/L	MJRL
Nitrate+Nitrite as N	07	E701177	SM22 4500-NO3F- 2011	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.10	0.10	1	mg/L	JH
Nitrite as N	07	14797-65-0	SM22 4500-NO2B- 2011	05/01/2020 09:50	05/01/2020 09:50	BLOD		0.01	0.05	1	mg/L	MJRL
Sulfate	07RE1	14808-79-8	EPA300.0 R2.1	05/05/2020 16:46	05/05/2020 16:46	139		5.0	10.0	10	mg/L	BG
Sulfide	07	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 20E0001-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	08	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:41	BLOD		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 20E0001-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	08	630-20-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	08	71-55-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	08	79-34-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	08	79-00-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	08	75-34-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	08	75-35-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	08	96-18-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	08	95-50-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	08	107-06-2	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	08	78-87-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	08	106-46-7	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	08	78-93-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	08	591-78-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	08	108-10-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	08	67-64-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	08	107-13-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	08	71-43-2	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	08	74-97-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	08	75-27-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	08	75-25-2	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	08	74-83-9	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	08	75-15-0	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	08	56-23-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	08	108-90-7	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 20E0001-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	08	75-00-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	08	67-66-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	08	74-87-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	08	156-59-2	SW8260D	05/01/2020 16:14	05/01/2020 16:14	0.85	J	0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	08	10061-01-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	08	124-48-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	08	74-95-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	08	75-71-8	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	08	100-41-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	08	74-88-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	08	179601-23-1	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	08	75-09-2	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	08	95-47-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	08	100-42-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	08	127-18-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	0.46	J	0.40	1.00	1	ug/L	KCS
Toluene	08	108-88-3	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	08	156-60-5	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	08	10061-02-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	08	110-57-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	08	79-01-6	SW8260D	05/01/2020 16:14	05/01/2020 16:14	0.58	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	08	75-69-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	08	108-05-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	08	75-01-4	SW8260D	05/01/2020 16:14	05/01/2020 16:14	0.68		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 20E0001-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	08	1330-20-7	SW8260D	05/01/2020 16:14	05/01/2020 16:14	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	08	101 %	70-120	05/01/2020 16:14	05/01/2020 16:14							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	08	100 %	75-120	05/01/2020 16:14	05/01/2020 16:14							
<i>Surr: Dibromofluoromethane (Surr)</i>	08	105 %	70-130	05/01/2020 16:14	05/01/2020 16:14							
<i>Surr: Toluene-d8 (Surr)</i>	08	101 %	70-130	05/01/2020 16:14	05/01/2020 16:14							
Head Space Analysis by GC												
Methane	08RE1	74-82-8	RSK175M	05/01/2020 13:58	05/01/2020 13:58	2580		14.5	25.0	5	ug/L	HLM
<i>Surr: Acetylene (Surr)</i>	08	124 %	70-130	05/01/2020 12:46	05/01/2020 12:46							
<i>Surr: Acetylene (Surr)</i>	08RE1	113 %	70-130	05/01/2020 13:58	05/01/2020 13:58							
Wet Chemistry Analysis												
Alkalinity	08	NA	SM22 2320B-2011	05/09/2020 08:10	05/09/2020 08:10	31.0		5.0	5.0	1	mg/L	WAM
Chloride	08	16887-00-6	EPA300.0 R2.1	05/04/2020 16:15	05/04/2020 16:15	2.8		0.5	1.0	1	mg/L	SKS
Nitrate as N	08	14797-55-8	Calc.	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.110	0.150	1	mg/L	MJRL
Nitrate+Nitrite as N	08	E701177	SM22 4500-NO3F- 2011	05/12/2020 15:25	05/12/2020 15:25	BLOD		0.10	0.10	1	mg/L	JH
Nitrite as N	08	14797-65-0	SM22 4500-NO2B- 2011	05/01/2020 09:50	05/01/2020 09:50	BLOD		0.01	0.05	1	mg/L	MJRL
Sulfate	08	14808-79-8	EPA300.0 R2.1	05/04/2020 16:15	05/04/2020 16:15	BLOD		0.5	1.0	1	mg/L	SKS
Sulfide	08	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Mercury	09	7439-97-6	SW7470A	05/11/2020 09:31	05/11/2020 13:47	0.00053		0.00020	0.00020	1	mg/L	MWL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	09	630-20-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	09	71-55-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	09	79-34-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	09	79-00-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	09	75-34-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	0.74	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	09	75-35-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	09	96-18-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	09	95-50-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	09	107-06-2	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	09	78-87-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	09	106-46-7	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	09	78-93-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	09	591-78-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	09	108-10-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	09	67-64-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	09	107-13-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	09	71-43-2	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	09	74-97-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	09	75-27-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	09	75-25-2	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	09	74-83-9	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	09	75-15-0	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	09	56-23-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	09	108-90-7	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	09	75-00-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	09	67-66-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	09	74-87-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	09	156-59-2	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	09	10061-01-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	09	124-48-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	09	74-95-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	09	75-71-8	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	09	100-41-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	09	74-88-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	09	179601-23-1	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	09	75-09-2	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	09	95-47-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	09	100-42-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	09	127-18-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	09	108-88-3	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	09	156-60-5	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	09	10061-02-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	09	110-57-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	09	79-01-6	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	09	75-69-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	09	108-05-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	09	75-01-4	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	09	1330-20-7	SW8260D	05/01/2020 16:41	05/01/2020 16:41	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	09	100 %	70-120	05/01/2020 16:41	05/01/2020 16:41							
Surr: 4-Bromofluorobenzene (Surr)	09	101 %	75-120	05/01/2020 16:41	05/01/2020 16:41							
Surr: Dibromofluoromethane (Surr)	09	104 %	70-130	05/01/2020 16:41	05/01/2020 16:41							
Surr: Toluene-d8 (Surr)	09	99.7 %	70-130	05/01/2020 16:41	05/01/2020 16:41							



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Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	09	74-82-8	RSK175M	05/01/2020 12:58	05/01/2020 12:58	BLOD		2.9	5.0	1	ug/L	HLM
Surr: Acetylene (Surr)	09	118 %	70-130	05/01/2020 12:58	05/01/2020 12:58							



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Laboratory Sample ID: 20E0001-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Alkalinity	09	NA	SM22 2320B-2011	05/09/2020 08:10	05/09/2020 08:10	73.0		5.0	5.0	1	mg/L	WAM
Chloride	09	16887-00-6	EPA300.0 R2.1	05/04/2020 16:39	05/04/2020 16:39	5.1		0.5	1.0	1	mg/L	SKS
Nitrate as N	09	14797-55-8	Calc.	05/12/2020 15:25	05/12/2020 15:25	0.248		0.110	0.150	1	mg/L	MJRL
Nitrate+Nitrite as N	09	E701177	SM22 4500-NO3F- 2011	05/12/2020 15:25	05/12/2020 15:25	0.25		0.10	0.10	1	mg/L	JH
Nitrite as N	09	14797-65-0	SM22 4500-NO2B- 2011	05/01/2020 09:50	05/01/2020 09:50	BLOD		0.01	0.05	1	mg/L	MJRL
Sulfate	09	14808-79-8	EPA300.0 R2.1	05/04/2020 16:39	05/04/2020 16:39	44.7		0.5	1.0	1	mg/L	SKS
Sulfide	09	18496-25-8	SW9215	05/05/2020 11:45	05/05/2020 11:45	BLOD		0.80	1.00	1	mg/L	JH



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0001-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	10	630-20-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	10	71-55-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	10	79-34-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	10	79-00-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	10	75-34-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	10	75-35-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	10	96-18-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	10	95-50-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	10	107-06-2	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	10	78-87-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	10	106-46-7	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	10	78-93-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	10	591-78-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	10	108-10-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	10	67-64-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	10	107-13-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	10	71-43-2	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	10	74-97-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	10	75-27-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	10	75-25-2	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	10	74-83-9	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	10	75-15-0	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	10	56-23-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	10	108-90-7	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0001-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	10	75-00-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	10	67-66-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	10	74-87-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	10	156-59-2	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	10	10061-01-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	10	124-48-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	10	74-95-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	10	75-71-8	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	10	100-41-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	10	74-88-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	10	179601-23-1	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	10	75-09-2	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	10	91-20-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	10	95-47-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	10	100-42-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	10	127-18-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	10	108-88-3	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	10	156-60-5	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	10	10061-02-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	10	110-57-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	10	79-01-6	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	10	75-69-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	10	108-05-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		2.00	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0001-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	10	75-01-4	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	10	1330-20-7	SW8260D	05/01/2020 12:40	05/01/2020 12:40	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	10	98.5 %	70-120	05/01/2020 12:40	05/01/2020 12:40							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	10	101 %	75-120	05/01/2020 12:40	05/01/2020 12:40							
<i>Surr: Dibromofluoromethane (Surr)</i>	10	102 %	70-130	05/01/2020 12:40	05/01/2020 12:40							
<i>Surr: Toluene-d8 (Surr)</i>	10	98.7 %	70-130	05/01/2020 12:40	05/01/2020 12:40							



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Client Sample ID: Trip Blank

Laboratory Sample ID: 20E0001-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Head Space Analysis by GC												
Methane	10	74-82-8	RSK175M	05/01/2020 13:11	05/01/2020 13:11	BLOD		2.9	5.0	1	ug/L	HLM
Surr: Acetylene (Surr)	10	110 %	70-130	05/01/2020 13:11	05/01/2020 13:11							



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1C

Laboratory Sample ID: 20E0001-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	11	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:47	0.0355		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1C

Laboratory Sample ID: 20E0001-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	11	630-20-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	11	71-55-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	11	79-34-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	11	79-00-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	11	75-34-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	15.8		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	11	75-35-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	11	96-18-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	11	95-50-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	11	107-06-2	SW8260D	05/01/2020 17:07	05/01/2020 17:07	0.84	J	0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	11	78-87-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	0.99	J	0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	11	106-46-7	SW8260D	05/01/2020 17:07	05/01/2020 17:07	5.09		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	11	78-93-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	11	591-78-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	11	108-10-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	11	67-64-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	11	107-13-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	11	71-43-2	SW8260D	05/01/2020 17:07	05/01/2020 17:07	1.14		0.40	1.00	1	ug/L	KCS
Bromochloromethane	11	74-97-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	11	75-27-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	11	75-25-2	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	11	74-83-9	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	11	75-15-0	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	11	56-23-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	11	108-90-7	SW8260D	05/01/2020 17:07	05/01/2020 17:07	2.21		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1C

Laboratory Sample ID: 20E0001-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	11	75-00-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	2.39		0.70	1.00	1	ug/L	KCS
Chloroform	11	67-66-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	11	74-87-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	11	156-59-2	SW8260D	05/01/2020 17:07	05/01/2020 17:07	17.7		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	11	10061-01-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	11	124-48-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	11	74-95-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	11	75-71-8	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	11	100-41-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	11	74-88-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	11	179601-23-1	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	11	75-09-2	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	11	95-47-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	11	100-42-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	11	127-18-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	11	108-88-3	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	11	156-60-5	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	11	10061-02-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	11	110-57-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	11	79-01-6	SW8260D	05/01/2020 17:07	05/01/2020 17:07	0.93	J	0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	11	75-69-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	11	108-05-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	11	75-01-4	SW8260D	05/01/2020 17:07	05/01/2020 17:07	5.02		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1C

Laboratory Sample ID: 20E0001-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	11	1330-20-7	SW8260D	05/01/2020 17:07	05/01/2020 17:07	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	11	99.0 %	70-120	05/01/2020 17:07	05/01/2020 17:07							
Surr: 4-Bromofluorobenzene (Surr)	11	100 %	75-120	05/01/2020 17:07	05/01/2020 17:07							
Surr: Dibromofluoromethane (Surr)	11	102 %	70-130	05/01/2020 17:07	05/01/2020 17:07							
Surr: Toluene-d8 (Surr)	11	98.0 %	70-130	05/01/2020 17:07	05/01/2020 17:07							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1D

Laboratory Sample ID: 20E0001-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	12	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:49	0.0201		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1D

Laboratory Sample ID: 20E0001-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	12	630-20-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	12	71-55-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	12	79-34-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	12	79-00-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	12	75-34-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	0.97	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	12	75-35-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	12	96-18-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	12	95-50-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	12	107-06-2	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	12	78-87-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	12	106-46-7	SW8260D	05/01/2020 17:34	05/01/2020 17:34	3.18		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	12	78-93-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	12	591-78-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	12	108-10-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	12	67-64-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	12	107-13-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	12	71-43-2	SW8260D	05/01/2020 17:34	05/01/2020 17:34	0.92	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	12	74-97-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	12	75-27-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	12	75-25-2	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	12	74-83-9	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	12	75-15-0	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	12	56-23-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	12	108-90-7	SW8260D	05/01/2020 17:34	05/01/2020 17:34	1.70		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1D

Laboratory Sample ID: 20E0001-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	12	75-00-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	12	67-66-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	12	74-87-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	12	156-59-2	SW8260D	05/01/2020 17:34	05/01/2020 17:34	9.29		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	12	10061-01-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	12	124-48-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	12	74-95-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	12	75-71-8	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	12	100-41-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	12	74-88-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	12	179601-23-1	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	12	75-09-2	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	12	95-47-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	12	100-42-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	12	127-18-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	12	108-88-3	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	12	156-60-5	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	12	10061-02-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	12	110-57-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	12	79-01-6	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	12	75-69-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	12	108-05-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	12	75-01-4	SW8260D	05/01/2020 17:34	05/01/2020 17:34	3.17		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1D

Laboratory Sample ID: 20E0001-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	12	1330-20-7	SW8260D	05/01/2020 17:34	05/01/2020 17:34	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	12	99.0 %	70-120	05/01/2020 17:34	05/01/2020 17:34							
Surr: 4-Bromofluorobenzene (Surr)	12	102 %	75-120	05/01/2020 17:34	05/01/2020 17:34							
Surr: Dibromofluoromethane (Surr)	12	104 %	70-130	05/01/2020 17:34	05/01/2020 17:34							
Surr: Toluene-d8 (Surr)	12	99.6 %	70-130	05/01/2020 17:34	05/01/2020 17:34							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1E

Laboratory Sample ID: 20E0001-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	13	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:51	BLOD		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1E

Laboratory Sample ID: 20E0001-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	13	630-20-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	13	71-55-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	13	79-34-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	13	79-00-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	13	75-34-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	3.57		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	13	75-35-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	13	96-18-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	13	95-50-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	13	107-06-2	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	13	78-87-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	13	106-46-7	SW8260D	05/01/2020 18:01	05/01/2020 18:01	2.45		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	13	78-93-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	13	591-78-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	13	108-10-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	13	67-64-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	13	107-13-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	13	71-43-2	SW8260D	05/01/2020 18:01	05/01/2020 18:01	1.64		0.40	1.00	1	ug/L	KCS
Bromochloromethane	13	74-97-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	13	75-27-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	13	75-25-2	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	13	74-83-9	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	13	75-15-0	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	13	56-23-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	13	108-90-7	SW8260D	05/01/2020 18:01	05/01/2020 18:01	1.18		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1E

Laboratory Sample ID: 20E0001-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	13	75-00-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	13	67-66-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	13	74-87-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	13	156-59-2	SW8260D	05/01/2020 18:01	05/01/2020 18:01	32.0		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	13	10061-01-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	13	124-48-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	13	74-95-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	13	75-71-8	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	13	100-41-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	13	74-88-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	13	179601-23-1	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	13	75-09-2	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	13	95-47-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	13	100-42-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	13	127-18-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	13	108-88-3	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	13	156-60-5	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	13	10061-02-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	13	110-57-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	13	79-01-6	SW8260D	05/01/2020 18:01	05/01/2020 18:01	3.26		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	13	75-69-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	13	108-05-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	13	75-01-4	SW8260D	05/01/2020 18:01	05/01/2020 18:01	8.50		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1E

Laboratory Sample ID: 20E0001-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	13	1330-20-7	SW8260D	05/01/2020 18:01	05/01/2020 18:01	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	13	98.0 %	70-120	05/01/2020 18:01	05/01/2020 18:01							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	13	101 %	75-120	05/01/2020 18:01	05/01/2020 18:01							
<i>Surr: Dibromofluoromethane (Surr)</i>	13	102 %	70-130	05/01/2020 18:01	05/01/2020 18:01							
<i>Surr: Toluene-d8 (Surr)</i>	13	100 %	70-130	05/01/2020 18:01	05/01/2020 18:01							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1F

Laboratory Sample ID: 20E0001-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	14	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:54	BLOD		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1F

Laboratory Sample ID: 20E0001-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	14	630-20-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	14	71-55-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	14	79-34-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	14	79-00-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	14	75-34-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	4.57		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	14	75-35-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	14	96-18-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	14	95-50-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	14	107-06-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	14	78-87-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	14	106-46-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	1.22		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	14	78-93-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	14	591-78-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	14	108-10-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	14	67-64-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	14	107-13-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	14	71-43-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	1.47		0.40	1.00	1	ug/L	KCS
Bromochloromethane	14	74-97-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	14	75-27-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	14	75-25-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	14	74-83-9	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	14	75-15-0	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	14	56-23-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	14	108-90-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	0.50	J	0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1F

Laboratory Sample ID: 20E0001-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	14	75-00-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	14	67-66-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	14	74-87-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	14	156-59-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	35.9		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	14	10061-01-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	14	124-48-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	14	74-95-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	14	75-71-8	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	14	100-41-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	14	74-88-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	14	179601-23-1	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	14	75-09-2	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	14	95-47-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	14	100-42-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	14	127-18-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	14	108-88-3	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	14	156-60-5	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	14	10061-02-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	14	110-57-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	14	79-01-6	SW8260D	05/01/2020 18:27	05/01/2020 18:27	3.04		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	14	75-69-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	14	108-05-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	14	75-01-4	SW8260D	05/01/2020 18:27	05/01/2020 18:27	8.81		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1F

Laboratory Sample ID: 20E0001-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	14	1330-20-7	SW8260D	05/01/2020 18:27	05/01/2020 18:27	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	14	97.7 %	70-120	05/01/2020 18:27	05/01/2020 18:27							
Surr: 4-Bromofluorobenzene (Surr)	14	99.6 %	75-120	05/01/2020 18:27	05/01/2020 18:27							
Surr: Dibromofluoromethane (Surr)	14	104 %	70-130	05/01/2020 18:27	05/01/2020 18:27							
Surr: Toluene-d8 (Surr)	14	99.7 %	70-130	05/01/2020 18:27	05/01/2020 18:27							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1G

Laboratory Sample ID: 20E0001-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	15	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 16:56	0.0095		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1G

Laboratory Sample ID: 20E0001-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	15	630-20-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	15	71-55-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	15	79-34-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	15	79-00-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	15	75-34-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	4.45		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	15	75-35-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	15	96-18-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	15	95-50-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	15	107-06-2	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	15	78-87-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	15	106-46-7	SW8260D	05/01/2020 18:54	05/01/2020 18:54	0.42	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	15	78-93-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	15	591-78-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	15	108-10-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	15	67-64-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	15	107-13-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	15	71-43-2	SW8260D	05/01/2020 18:54	05/01/2020 18:54	0.72	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	15	74-97-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	15	75-27-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	15	75-25-2	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	15	74-83-9	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	15	75-15-0	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	15	56-23-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	15	108-90-7	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1G

Laboratory Sample ID: 20E0001-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	15	75-00-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	15	67-66-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	15	74-87-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	15	156-59-2	SW8260D	05/01/2020 18:54	05/01/2020 18:54	18.6		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	15	10061-01-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	15	124-48-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	15	74-95-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	15	75-71-8	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	15	100-41-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	15	74-88-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	15	179601-23-1	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	15	75-09-2	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	15	95-47-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	15	100-42-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	15	127-18-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	15	108-88-3	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	15	156-60-5	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	15	10061-02-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	15	110-57-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	15	79-01-6	SW8260D	05/01/2020 18:54	05/01/2020 18:54	1.73		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	15	75-69-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	15	108-05-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	15	75-01-4	SW8260D	05/01/2020 18:54	05/01/2020 18:54	3.49		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1G

Laboratory Sample ID: 20E0001-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	15	1330-20-7	SW8260D	05/01/2020 18:54	05/01/2020 18:54	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	15	100 %	70-120	05/01/2020 18:54	05/01/2020 18:54							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	15	102 %	75-120	05/01/2020 18:54	05/01/2020 18:54							
<i>Surr: Dibromofluoromethane (Surr)</i>	15	104 %	70-130	05/01/2020 18:54	05/01/2020 18:54							
<i>Surr: Toluene-d8 (Surr)</i>	15	98.4 %	70-130	05/01/2020 18:54	05/01/2020 18:54							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1H

Laboratory Sample ID: 20E0001-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	16	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 17:09	BLOD		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1H

Laboratory Sample ID: 20E0001-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	16	630-20-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	16	71-55-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.60	1.00	1	ug/L	KCS
1,1,1,2-Tetrachloroethane	16	79-34-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	16	79-00-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	16	75-34-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	2.59		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	16	75-35-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	16	96-18-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	16	95-50-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	16	107-06-2	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	16	78-87-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	16	106-46-7	SW8260D	05/01/2020 19:20	05/01/2020 19:20	0.47	J	0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	16	78-93-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	16	591-78-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	16	108-10-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	16	67-64-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	16	107-13-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	16	71-43-2	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	16	74-97-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	16	75-27-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	16	75-25-2	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	16	74-83-9	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	16	75-15-0	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	16	56-23-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	16	108-90-7	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1H

Laboratory Sample ID: 20E0001-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	16	75-00-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	16	67-66-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	16	74-87-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	16	156-59-2	SW8260D	05/01/2020 19:20	05/01/2020 19:20	13.0		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	16	10061-01-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	16	124-48-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	16	74-95-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	16	75-71-8	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	16	100-41-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	16	74-88-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	16	179601-23-1	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	16	75-09-2	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	16	95-47-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	16	100-42-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	16	127-18-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	16	108-88-3	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	16	156-60-5	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	16	10061-02-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	16	110-57-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	16	79-01-6	SW8260D	05/01/2020 19:20	05/01/2020 19:20	1.19		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	16	75-69-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	16	108-05-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	16	75-01-4	SW8260D	05/01/2020 19:20	05/01/2020 19:20	4.00		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1H

Laboratory Sample ID: 20E0001-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	16	1330-20-7	SW8260D	05/01/2020 19:20	05/01/2020 19:20	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	16	102 %	70-120	05/01/2020 19:20	05/01/2020 19:20							
Surr: 4-Bromofluorobenzene (Surr)	16	101 %	75-120	05/01/2020 19:20	05/01/2020 19:20							
Surr: Dibromofluoromethane (Surr)	16	105 %	70-130	05/01/2020 19:20	05/01/2020 19:20							
Surr: Toluene-d8 (Surr)	16	100 %	70-130	05/01/2020 19:20	05/01/2020 19:20							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1I

Laboratory Sample ID: 20E0001-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	17	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 17:11	BLOD		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-11

Laboratory Sample ID: 20E0001-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	17	630-20-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	17	71-55-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	17	79-34-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	17	79-00-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	17	75-34-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	17	75-35-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	17	96-18-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	17	95-50-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	17	107-06-2	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	17	78-87-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	17	106-46-7	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	17	78-93-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	17	591-78-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	17	108-10-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	17	67-64-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	17	107-13-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	17	71-43-2	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	17	74-97-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	17	75-27-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	17	75-25-2	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	17	74-83-9	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	17	75-15-0	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	17	56-23-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	17	108-90-7	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-11

Laboratory Sample ID: 20E0001-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	17	75-00-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	17	67-66-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	17	74-87-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	17	156-59-2	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	17	10061-01-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	17	124-48-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	17	74-95-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	17	75-71-8	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	17	100-41-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	17	74-88-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	17	179601-23-1	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	17	75-09-2	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	17	95-47-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	17	100-42-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	17	127-18-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	17	108-88-3	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	17	156-60-5	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	17	10061-02-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	17	110-57-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	17	79-01-6	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	17	75-69-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	17	108-05-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	17	75-01-4	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-1I

Laboratory Sample ID: 20E0001-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	17	1330-20-7	SW8260D	05/01/2020 19:47	05/01/2020 19:47	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	17	98.7 %	70-120	05/01/2020 19:47	05/01/2020 19:47							
Surr: 4-Bromofluorobenzene (Surr)	17	99.3 %	75-120	05/01/2020 19:47	05/01/2020 19:47							
Surr: Dibromofluoromethane (Surr)	17	103 %	70-130	05/01/2020 19:47	05/01/2020 19:47							
Surr: Toluene-d8 (Surr)	17	99.4 %	70-130	05/01/2020 19:47	05/01/2020 19:47							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-3

Laboratory Sample ID: 20E0001-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	18	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 17:13	0.0033	J	0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-3

Laboratory Sample ID: 20E0001-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	18	630-20-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	18	71-55-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	18	79-34-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	18	79-00-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	18	75-34-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	18	75-35-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	18	96-18-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	18	95-50-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	18	107-06-2	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	18	78-87-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	18	106-46-7	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	18	78-93-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	18	591-78-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	18	108-10-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	18	67-64-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	18	107-13-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	18	71-43-2	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	18	74-97-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	18	75-27-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	18	75-25-2	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	18	74-83-9	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	18	75-15-0	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	18	56-23-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	18	108-90-7	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-3

Laboratory Sample ID: 20E0001-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	18	75-00-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	18	67-66-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	18	74-87-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	18	156-59-2	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	18	10061-01-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	18	124-48-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	18	74-95-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	18	75-71-8	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	18	100-41-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	18	74-88-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	18	179601-23-1	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	18	75-09-2	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	18	95-47-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	18	100-42-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	18	127-18-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	18	108-88-3	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	18	156-60-5	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	18	10061-02-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	18	110-57-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	18	79-01-6	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	18	75-69-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	18	108-05-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	18	75-01-4	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-3

Laboratory Sample ID: 20E0001-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	18	1330-20-7	SW8260D	05/01/2020 20:13	05/01/2020 20:13	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	18	100 %	70-120	05/01/2020 20:13	05/01/2020 20:13							
Surr: 4-Bromofluorobenzene (Surr)	18	101 %	75-120	05/01/2020 20:13	05/01/2020 20:13							
Surr: Dibromofluoromethane (Surr)	18	104 %	70-130	05/01/2020 20:13	05/01/2020 20:13							
Surr: Toluene-d8 (Surr)	18	100 %	70-130	05/01/2020 20:13	05/01/2020 20:13							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-5

Laboratory Sample ID: 20E0001-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	19	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 17:15	BLOD		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-5

Laboratory Sample ID: 20E0001-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	19	630-20-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	19	71-55-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	19	79-34-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	19	79-00-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	19	75-34-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	19	75-35-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	19	96-18-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	19	95-50-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	19	107-06-2	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	19	78-87-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	19	106-46-7	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	19	78-93-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	19	591-78-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	19	108-10-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	19	67-64-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	19	107-13-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	19	71-43-2	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	19	74-97-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	19	75-27-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	19	75-25-2	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	19	74-83-9	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	19	75-15-0	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	19	56-23-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	19	108-90-7	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-5

Laboratory Sample ID: 20E0001-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	19	75-00-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	19	67-66-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	19	74-87-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	19	156-59-2	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	19	10061-01-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	19	124-48-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	19	74-95-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	19	75-71-8	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	19	100-41-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	19	74-88-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	19	179601-23-1	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	19	75-09-2	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		3.00	4.00	1	ug/L	KCS
o-Xylene	19	95-47-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	19	100-42-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	19	127-18-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	19	108-88-3	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	19	156-60-5	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	19	10061-02-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	19	110-57-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	19	79-01-6	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	19	75-69-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	19	108-05-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	19	75-01-4	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		0.50	0.50	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-5

Laboratory Sample ID: 20E0001-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Xylenes, Total	19	1330-20-7	SW8260D	05/01/2020 20:40	05/01/2020 20:40	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	19	99.8 %	70-120	05/01/2020 20:40	05/01/2020 20:40							
Surr: 4-Bromofluorobenzene (Surr)	19	101 %	75-120	05/01/2020 20:40	05/01/2020 20:40							
Surr: Dibromofluoromethane (Surr)	19	104 %	70-130	05/01/2020 20:40	05/01/2020 20:40							
Surr: Toluene-d8 (Surr)	19	99.8 %	70-130	05/01/2020 20:40	05/01/2020 20:40							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-6

Laboratory Sample ID: 20E0001-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Metals (Total) by EPA 6000/7000 Series Methods												
Cobalt	20	7440-48-4	SW6010C	05/01/2020 14:00	05/04/2020 17:21	0.134		0.0030	0.0040	1	mg/L	SNL



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-6

Laboratory Sample ID: 20E0001-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
1,1,1,2-Tetrachloroethane	20	630-20-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	20	71-55-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	20	79-34-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	20	79-00-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	20	75-34-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	0.69	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	20	75-35-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.70	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	20	96-18-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	20	95-50-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	20	107-06-2	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	20	78-87-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	20	106-46-7	SW8260D	05/01/2020 21:06	05/01/2020 21:06	11.0		0.40	1.00	1	ug/L	KCS
2-Butanone (MEK)	20	78-93-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	20	591-78-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	20	108-10-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	20	67-64-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		7.00	10.0	1	ug/L	KCS
Acrylonitrile	20	107-13-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		1.70	5.00	1	ug/L	KCS
Benzene	20	71-43-2	SW8260D	05/01/2020 21:06	05/01/2020 21:06	1.30		0.40	1.00	1	ug/L	KCS
Bromochloromethane	20	74-97-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	20	75-27-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	20	75-25-2	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	20	74-83-9	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	20	75-15-0	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	20	56-23-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	20	108-90-7	SW8260D	05/01/2020 21:06	05/01/2020 21:06	4.21		0.40	1.00	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-6

Laboratory Sample ID: 20E0001-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Chloroethane	20	75-00-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	20	67-66-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	20	74-87-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.95	1.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	20	156-59-2	SW8260D	05/01/2020 21:06	05/01/2020 21:06	3.46		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	20	10061-01-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	20	124-48-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	20	74-95-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	20	75-71-8	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.95	1.00	1	ug/L	KCS
Ethylbenzene	20	100-41-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	20	74-88-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		1.70	10.0	1	ug/L	KCS
m+p-Xylenes	20	179601-23-1	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.60	2.00	1	ug/L	KCS
Methylene chloride	20	75-09-2	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		3.00	4.00	1	ug/L	KCS
Naphthalene	20	91-20-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.80	1.00	1	ug/L	KCS
o-Xylene	20	95-47-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Styrene	20	100-42-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	20	127-18-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	20	108-88-3	SW8260D	05/01/2020 21:06	05/01/2020 21:06	19.1		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	20	156-60-5	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	20	10061-02-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	20	110-57-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	20	79-01-6	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	20	75-69-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	20	108-05-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		2.00	10.0	1	ug/L	KCS



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Client Sample ID: MW-6

Laboratory Sample ID: 20E0001-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Volatile Organic Compounds by GCMS												
Vinyl chloride	20	75-01-4	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	20	1330-20-7	SW8260D	05/01/2020 21:06	05/01/2020 21:06	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	20	98.7 %	70-120	05/01/2020 21:06	05/01/2020 21:06							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	20	101 %	75-120	05/01/2020 21:06	05/01/2020 21:06							
<i>Surr: Dibromofluoromethane (Surr)</i>	20	105 %	70-130	05/01/2020 21:06	05/01/2020 21:06							
<i>Surr: Toluene-d8 (Surr)</i>	20	99.6 %	70-130	05/01/2020 21:06	05/01/2020 21:06							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0024 - EPA200.2/R2.8										
Blank (BDE0024-BLK1) Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	ND	0.0040	mg/L							
LCS (BDE0024-BS1) Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.473	0.0040	mg/L	0.500		94.6	80-120			
LCS Dup (BDE0024-BSD1) Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.476	0.0040	mg/L	0.500		95.2	80-120	0.693	20	
Matrix Spike (BDE0024-MS1) Source: 20E0001-19 Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.465	0.0040	mg/L	0.500	BLOD	93.0	75-125			
Matrix Spike (BDE0024-MS2) Source: 20E0001-20 Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.588	0.0040	mg/L	0.500	0.134	90.8	75-125			
Matrix Spike Dup (BDE0024-MSD1) Source: 20E0001-19 Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.463	0.0040	mg/L	0.500	BLOD	92.7	75-125	0.402	20	
Matrix Spike Dup (BDE0024-MSD2) Source: 20E0001-20 Prepared: 05/01/2020 Analyzed: 05/04/2020										
Cobalt	0.598	0.0040	mg/L	0.500	0.134	93.0	75-125	1.84	20	
Batch BDE0299 - SW7470A										
Blank (BDE0299-BLK1) Prepared & Analyzed: 05/11/2020										
Mercury	ND	0.00020	mg/L							
LCS (BDE0299-BS1) Prepared & Analyzed: 05/11/2020										
Mercury	0.00278	0.00020	mg/L	0.00250		111	80-120			



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Metals (Total) by EPA 6000/7000 Series Methods - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0299 - SW7470A										
LCS Dup (BDE0299-BSD1)				Prepared & Analyzed: 05/11/2020						
Mercury	0.00259	0.00020	mg/L	0.00250		104	80-120	6.79	20	
Matrix Spike (BDE0299-MS1)				Source: 20E0001-09 Prepared & Analyzed: 05/11/2020						
Mercury	0.00281	0.00020	mg/L	0.00250	0.00053	91.1	80-120			
Matrix Spike (BDE0299-MS2)				Source: 20E0002-07 Prepared & Analyzed: 05/11/2020						
Mercury	0.00272	0.00020	mg/L	0.00250	BLOD	109	80-120			
Matrix Spike Dup (BDE0299-MSD1)				Source: 20E0001-09 Prepared & Analyzed: 05/11/2020						
Mercury	0.00279	0.00020	mg/L	0.00250	0.00053	90.3	80-120	0.665	20	
Matrix Spike Dup (BDE0299-MSD2)				Source: 20E0002-07 Prepared & Analyzed: 05/11/2020						
Mercury	0.00272	0.00020	mg/L	0.00250	BLOD	109	80-120	0.105	20	



Certificate of Analysis

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Date Issued: 5/14/2020 5:13:20PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Blank (BDE0016-BLK1)

Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L							
1,1,1-Trichloroethane	ND	1.00	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L							
1,1,2-Trichloroethane	ND	1.00	ug/L							
1,1-Dichloroethane	ND	1.00	ug/L							
1,1-Dichloroethylene	ND	1.00	ug/L							
1,2,3-Trichloropropane	ND	1.00	ug/L							
1,2-Dichlorobenzene	ND	1.00	ug/L							
1,2-Dichloroethane	ND	1.00	ug/L							
1,2-Dichloropropane	ND	1.00	ug/L							
1,4-Dichlorobenzene	ND	1.00	ug/L							
2-Butanone (MEK)	ND	10.0	ug/L							
2-Hexanone (MBK)	ND	5.00	ug/L							
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L							
Acetone	ND	10.0	ug/L							
Acrylonitrile	ND	5.00	ug/L							
Benzene	ND	1.00	ug/L							
Bromochloromethane	ND	1.00	ug/L							
Bromodichloromethane	ND	0.50	ug/L							
Bromoform	ND	1.00	ug/L							
Bromomethane	ND	1.00	ug/L							
Carbon disulfide	ND	10.0	ug/L							
Carbon tetrachloride	ND	1.00	ug/L							
Chlorobenzene	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Blank (BDE0016-BLK1)

Prepared & Analyzed: 05/01/2020

Chloroform	ND	0.50	ug/L							
Chloromethane	ND	1.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
cis-1,3-Dichloropropene	ND	1.00	ug/L							
Dibromochloromethane	ND	0.50	ug/L							
Dibromomethane	ND	1.00	ug/L							
Ethylbenzene	ND	1.00	ug/L							
Iodomethane	ND	10.0	ug/L							
m+p-Xylenes	ND	2.00	ug/L							
Methylene chloride	ND	4.00	ug/L							
o-Xylene	ND	1.00	ug/L							
Styrene	ND	1.00	ug/L							
Tetrachloroethylene (PCE)	ND	1.00	ug/L							
Toluene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,3-Dichloropropene	ND	1.00	ug/L							
trans-1,4-Dichloro-2-butene	ND	4.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Trichlorofluoromethane	ND	1.00	ug/L							
Vinyl acetate	ND	10.0	ug/L							
Vinyl chloride	ND	0.50	ug/L							
Xylenes, Total	ND	3.00	ug/L							
<hr/>										
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>48.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>96.9</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>49.4</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.9</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>51.2</i>		<i>ug/L</i>	<i>50.0</i>		<i>102</i>	<i>70-130</i>			



Certificate of Analysis

Client Name: Golder Associates, Inc.
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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0016 - SW5030B										
Blank (BDE0016-BLK1)				Prepared & Analyzed: 05/01/2020						
<i>Surr: Toluene-d8 (Surr)</i>	49.3		ug/L	50.0		98.6	70-130			
LCS (BDE0016-BS1)				Prepared & Analyzed: 05/01/2020						
1,1,1,2-Tetrachloroethane	51.1	0.4	ug/L	50.0		102	80-130			
1,1,1-Trichloroethane	56.6	1	ug/L	50.0		113	65-130			
1,1,2,2-Tetrachloroethane	44.4	0.4	ug/L	50.0		88.7	65-130			
1,1,2-Trichloroethane	50.3	1	ug/L	50.0		101	75-125			
1,1-Dichloroethane	51.7	1	ug/L	50.0		103	70-135			
1,1-Dichloroethylene	52.8	1	ug/L	50.0		106	70-130			
1,2,3-Trichloropropane	43.1	1	ug/L	50.0		86.1	75-125			
1,2-Dichlorobenzene	51.8	0.5	ug/L	50.0		104	70-120			
1,2-Dichloroethane	45.8	1	ug/L	50.0		91.6	70-130			
1,2-Dichloropropane	47.3	0.5	ug/L	50.0		94.5	75-125			
1,4-Dichlorobenzene	50.7	1	ug/L	50.0		101	75-125			
2-Butanone (MEK)	40.4	10	ug/L	50.0		80.9	30-150			
2-Hexanone (MBK)	37.1	5	ug/L	50.0		74.2	55-130			
4-Methyl-2-pentanone (MIBK)	37.7	5	ug/L	50.0		75.5	60-135			
Acetone	36.9	10	ug/L	50.0		73.7	40-140			
Acrylonitrile	328	5	ug/L	250		131	70-130			L
Benzene	51.2	1	ug/L	50.0		102	80-120			
Bromochloromethane	51.1	1	ug/L	50.0		102	65-130			
Bromodichloromethane	49.2	0.5	ug/L	50.0		98.4	75-120			
Bromoform	47.6	1	ug/L	50.0		95.2	70-130			
Bromomethane	45.6	1	ug/L	50.0		91.1	30-145			
Carbon disulfide	42.4	10	ug/L	50.0		84.7	35-160			



Certificate of Analysis

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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

LCS (BDE0016-BS1)

Prepared & Analyzed: 05/01/2020

Carbon tetrachloride	57.9	1	ug/L	50.0		116	65-140			
Chlorobenzene	51.2	1	ug/L	50.0		102	80-120			
Chloroethane	44.0	1	ug/L	50.0		88.1	60-135			
Chloroform	48.4	0.5	ug/L	50.0		96.8	65-135			
Chloromethane	39.7	1	ug/L	50.0		79.3	40-125			
cis-1,2-Dichloroethylene	50.4	1	ug/L	50.0		101	70-125			
cis-1,3-Dichloropropene	48.9	1	ug/L	50.0		97.7	70-130			
Dibromochloromethane	52.5	0.5	ug/L	50.0		105	60-135			
Dibromomethane	47.0	1	ug/L	50.0		93.9	75-125			
Ethylbenzene	48.2	1	ug/L	50.0		96.3	75-125			
m+p-Xylenes	99.2	2	ug/L	100		99.2	75-130			
Methylene chloride	44.7	4	ug/L	50.0		89.4	55-140			
o-Xylene	49.3	1	ug/L	50.0		98.6	80-120			
Styrene	48.3	1	ug/L	50.0		96.7	65-135			
Tetrachloroethylene (PCE)	77.2	1	ug/L	50.0		154	45-150			L
Toluene	51.7	1	ug/L	50.0		103	75-120			
trans-1,2-Dichloroethylene	53.6	1	ug/L	50.0		107	60-140			
trans-1,3-Dichloropropene	47.5	1	ug/L	50.0		95.1	55-140			
Trichloroethylene	51.9	1	ug/L	50.0		104	70-125			
Trichlorofluoromethane	54.2	1	ug/L	50.0		108	60-145			
Vinyl chloride	47.8	0.5	ug/L	50.0		95.5	50-145			
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<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>46.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>92.6</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>47.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>94.6</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>48.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>97.4</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>49.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>98.3</i>	<i>70-130</i>			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

LCS (BDE0016-BS1)

Prepared & Analyzed: 05/01/2020

Duplicate (BDE0016-DUP1)

Source: 20E0001-02

Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,1-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1,2,2-Tetrachloroethane	ND	0.40	ug/L		BLOD			NA	30	
1,1,2-Trichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,1-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
1,2,3-Trichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloroethane	ND	1.00	ug/L		BLOD			NA	30	
1,2-Dichloropropane	ND	1.00	ug/L		BLOD			NA	30	
1,4-Dichlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
2-Butanone (MEK)	ND	10.0	ug/L		BLOD			NA	30	
2-Hexanone (MBK)	ND	5.00	ug/L		BLOD			NA	30	
4-Methyl-2-pentanone (MIBK)	ND	5.00	ug/L		BLOD			NA	30	
Acetone	ND	10.0	ug/L		BLOD			NA	30	
Acrylonitrile	ND	5.00	ug/L		BLOD			NA	30	
Benzene	ND	1.00	ug/L		BLOD			NA	30	
Bromochloromethane	ND	1.00	ug/L		BLOD			NA	30	
Bromodichloromethane	ND	0.50	ug/L		BLOD			NA	30	
Bromoform	ND	1.00	ug/L		BLOD			NA	30	
Bromomethane	ND	1.00	ug/L		BLOD			NA	30	
Carbon disulfide	ND	10.0	ug/L		BLOD			NA	30	
Carbon tetrachloride	ND	1.00	ug/L		BLOD			NA	30	



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
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 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Duplicate (BDE0016-DUP1)	Source: 20E0001-02			Prepared & Analyzed: 05/01/2020						
Chlorobenzene	ND	1.00	ug/L		BLOD			NA	30	
Chloroethane	ND	1.00	ug/L		BLOD			NA	30	
Chloroform	ND	0.50	ug/L		BLOD			NA	30	
Chloromethane	ND	1.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
cis-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
Dibromochloromethane	ND	0.50	ug/L		BLOD			NA	30	
Dibromomethane	ND	1.00	ug/L		BLOD			NA	30	
Ethylbenzene	ND	1.00	ug/L		BLOD			NA	30	
Iodomethane	ND	10.0	ug/L		BLOD			NA	30	
m+p-Xylenes	ND	2.00	ug/L		BLOD			NA	30	
Methylene chloride	ND	4.00	ug/L		BLOD			NA	30	
o-Xylene	ND	1.00	ug/L		BLOD			NA	30	
Styrene	ND	1.00	ug/L		BLOD			NA	30	
Tetrachloroethylene (PCE)	ND	1.00	ug/L		BLOD			NA	30	
Toluene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,3-Dichloropropene	ND	1.00	ug/L		BLOD			NA	30	
trans-1,4-Dichloro-2-butene	ND	4.00	ug/L		BLOD			NA	30	
Trichloroethylene	ND	1.00	ug/L		BLOD			NA	30	
Trichlorofluoromethane	ND	1.00	ug/L		BLOD			NA	30	
Vinyl acetate	ND	10.0	ug/L		BLOD			NA	30	
Vinyl chloride	ND	0.50	ug/L		BLOD			NA	30	
Xylenes, Total	ND	3.00	ug/L		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	49.3		ug/L	50.0		98.5	70-120			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Duplicate (BDE0016-DUP1) Source: 20E0001-02 Prepared & Analyzed: 05/01/2020

<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.2		ug/L	50.0		98.5	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	50.3		ug/L	50.0		101	70-130
<i>Surr: Toluene-d8 (Surr)</i>	49.5		ug/L	50.0		99.1	70-130

Matrix Spike (BDE0016-MS1) Source: 20E0001-02 Prepared & Analyzed: 05/01/2020

1,1,1,2-Tetrachloroethane	55.0	0.4	ug/L	50.0	BLOD	110	80-130
1,1,1-Trichloroethane	64.1	1	ug/L	50.0	BLOD	128	65-130
1,1,2,2-Tetrachloroethane	52.2	0.4	ug/L	50.0	BLOD	104	65-130
1,1,2-Trichloroethane	58.0	1	ug/L	50.0	BLOD	116	75-125
1,1-Dichloroethane	58.3	1	ug/L	50.0	BLOD	117	70-135
1,1-Dichloroethylene	58.9	1	ug/L	50.0	BLOD	118	70-130
1,2,3-Trichloropropane	50.1	1	ug/L	50.0	BLOD	100	75-125
1,2-Dichlorobenzene	53.3	0.5	ug/L	50.0	BLOD	107	70-120
1,2-Dichloroethane	53.6	1	ug/L	50.0	BLOD	107	70-130
1,2-Dichloropropane	52.3	0.5	ug/L	50.0	BLOD	105	75-125
1,4-Dichlorobenzene	53.0	1	ug/L	50.0	BLOD	106	75-125
2-Butanone (MEK)	49.6	10	ug/L	50.0	BLOD	99.2	30-150
2-Hexanone (MBK)	44.2	5	ug/L	50.0	BLOD	88.4	55-130
4-Methyl-2-pentanone (MIBK)	47.5	5	ug/L	50.0	BLOD	94.9	60-135
Acetone	49.8	10	ug/L	50.0	BLOD	90.6	40-140
Acrylonitrile	282	5	ug/L	250	BLOD	113	70-130
Benzene	55.4	1	ug/L	50.0	BLOD	111	80-120
Bromochloromethane	56.4	1	ug/L	50.0	BLOD	113	65-130
Bromodichloromethane	57.6	0.5	ug/L	50.0	BLOD	115	75-120
Bromoform	53.5	1	ug/L	50.0	BLOD	107	70-130



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Matrix Spike (BDE0016-MS1)	Source: 20E0001-02			Prepared & Analyzed: 05/01/2020						
Bromomethane	50.2	1	ug/L	50.0	BLOD	100	30-145			
Carbon disulfide	43.1	10	ug/L	50.0	BLOD	86.1	35-160			
Carbon tetrachloride	66.6	1	ug/L	50.0	BLOD	133	65-140			
Chlorobenzene	55.1	1	ug/L	50.0	BLOD	110	80-120			
Chloroethane	52.6	1	ug/L	50.0	BLOD	105	60-135			
Chloroform	55.6	0.5	ug/L	50.0	BLOD	111	65-135			
Chloromethane	45.4	1	ug/L	50.0	BLOD	90.7	40-125			
cis-1,2-Dichloroethylene	58.2	1	ug/L	50.0	BLOD	116	70-125			
cis-1,3-Dichloropropene	54.1	1	ug/L	50.0	BLOD	108	70-130			
Dibromochloromethane	60.5	0.5	ug/L	50.0	BLOD	121	60-135			
Dibromomethane	56.5	1	ug/L	50.0	BLOD	113	75-125			
Ethylbenzene	52.8	1	ug/L	50.0	BLOD	106	75-125			
m+p-Xylenes	110	2	ug/L	100	BLOD	110	75-130			
Methylene chloride	51.6	4	ug/L	50.0	BLOD	103	55-140			
o-Xylene	54.7	1	ug/L	50.0	BLOD	109	80-120			
Styrene	53.5	1	ug/L	50.0	BLOD	107	65-135			
Tetrachloroethylene (PCE)	80.7	1	ug/L	50.0	BLOD	161	45-150			M
Toluene	56.9	1	ug/L	50.0	BLOD	114	75-120			
trans-1,2-Dichloroethylene	61.7	1	ug/L	50.0	BLOD	123	60-140			
trans-1,3-Dichloropropene	52.2	1	ug/L	50.0	BLOD	104	55-140			
Trichloroethylene	57.9	1	ug/L	50.0	BLOD	116	70-125			
Trichlorofluoromethane	60.1	1	ug/L	50.0	BLOD	120	60-145			
Vinyl chloride	56.7	0.5	ug/L	50.0	BLOD	113	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	50.4		ug/L	50.0		101	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.4		ug/L	50.0		101	75-120			



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Volatile Organic Compounds by GCMS - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0016 - SW5030B

Matrix Spike (BDE0016-MS1)

Source: 20E0001-02

Prepared & Analyzed: 05/01/2020

<i>Surr: Dibromofluoromethane (Surr)</i>	52.9	ug/L	50.0	106	70-130
<i>Surr: Toluene-d8 (Surr)</i>	50.8	ug/L	50.0	102	70-130



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Head Space Analysis by GC - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0034 - No Prep VOC										
Blank (BDE0034-BLK1)										
				Prepared & Analyzed: 05/01/2020						
Methane	ND	5.0	ug/L							
<i>Surr: Acetylene (Surr)</i>	417		ug/L	432		96.6	70-130			
LCS (BDE0034-BS1)										
				Prepared & Analyzed: 05/01/2020						
Methane	248	5.0	ug/L	266		93.2	70-130			
<i>Surr: Acetylene (Surr)</i>	436		ug/L	432		101	70-130			
Matrix Spike (BDE0034-MS1)										
				Source: 20E0001-04		Prepared & Analyzed: 05/01/2020				
Methane	296	5.0	ug/L	266	BLOD	111	70-130			
<i>Surr: Acetylene (Surr)</i>	527		ug/L	432		122	70-130			
Matrix Spike Dup (BDE0034-MSD1)										
				Source: 20E0001-04		Prepared & Analyzed: 05/01/2020				
Methane	288	5.0	ug/L	266	BLOD	108	70-130	2.74	20	
<i>Surr: Acetylene (Surr)</i>	497		ug/L	432		115	70-130			



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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0015 - No Prep Wet Chem										
Blank (BDE0015-BLK1)				Prepared & Analyzed: 05/01/2020						
Nitrite as N	ND	0.05	mg/L							
LCS (BDE0015-BS1)				Prepared & Analyzed: 05/01/2020						
Nitrite as N	0.10	0.05	mg/L	0.100		96.0	80-120			
Matrix Spike (BDE0015-MS1)				Source: 20D1220-04		Prepared & Analyzed: 05/01/2020				
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	98.0	80-120			
Matrix Spike Dup (BDE0015-MSD1)				Source: 20D1220-04		Prepared & Analyzed: 05/01/2020				
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	97.0	80-120	1.03	20	
Batch BDE0066 - No Prep IC										
Blank (BDE0066-BLK1)				Prepared & Analyzed: 05/04/2020						
Chloride	ND	1.0	mg/L							
Sulfate	ND	1.0	mg/L							
LCS (BDE0066-BS1)				Prepared & Analyzed: 05/04/2020						
Sulfate	20.4	1	mg/L	20.0		102	90-110			
Chloride	20.5	1	mg/L	20.0		103	90-110			
LCS Dup (BDE0066-BSD1)				Prepared & Analyzed: 05/04/2020						
Chloride	20.2	1	mg/L	20.0		101	90-110	1.61	15	
Sulfate	20.2	1	mg/L	20.0		101	90-110	0.527	15	
Matrix Spike (BDE0066-MS1)				Source: 20E0001-04		Prepared & Analyzed: 05/04/2020				
Sulfate	9.8	1.0	mg/L	10.0	BLOD	97.6	90-110			
Chloride	11.8	1.0	mg/L	10.0	2.2	96.3	90-110			



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Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch BDE0066 - No Prep IC

Matrix Spike Dup (BDE0066-MSD1)		Source: 20E0001-04			Prepared & Analyzed: 05/04/2020					
Sulfate	9.7	1.0	mg/L	10.0	BLOD	97.1	90-110	0.544	15	
Chloride	11.6	1.0	mg/L	10.0	2.2	94.8	90-110	1.27	15	

Batch BDE0097 - No Prep IC

Blank (BDE0097-BLK1)		Prepared & Analyzed: 05/05/2020								
Chloride	ND	1.0	mg/L							
Sulfate	ND	1.0	mg/L							

LCS (BDE0097-BS1)		Prepared & Analyzed: 05/05/2020								
Chloride	20.5	1	mg/L	20.0		103	90-110			
Sulfate	20.2	1	mg/L	20.0		101	90-110			

LCS Dup (BDE0097-BSD1)		Prepared & Analyzed: 05/05/2020								
Chloride	20.9	1	mg/L	20.0		104	90-110	1.78	15	
Sulfate	20.7	1	mg/L	20.0		104	90-110	2.55	15	

Matrix Spike (BDE0097-MS1)		Source: 20E0108-05			Prepared & Analyzed: 05/05/2020					
Sulfate	16.0	1.0	mg/L	10.0	6.6	93.9	90-110			
Chloride	14.1	1.0	mg/L	10.0	4.6	95.0	90-110			

Matrix Spike Dup (BDE0097-MSD1)		Source: 20E0108-05			Prepared & Analyzed: 05/05/2020					
Sulfate	16.0	1.0	mg/L	10.0	6.6	94.0	90-110	0.0375	15	
Chloride	14.0	1.0	mg/L	10.0	4.6	94.1	90-110	0.661	15	

Batch BDE0119 - No Prep Wet Chem

Blank (BDE0119-BLK1)		Prepared & Analyzed: 05/05/2020								
Sulfide	ND	1.00	mg/L							



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Wet Chemistry Analysis - Quality Control
 Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0119 - No Prep Wet Chem										
LCS (BDE0119-BS1)				Prepared & Analyzed: 05/05/2020						
Sulfide	4.64	1	mg/L	5.00		92.8	80-120			
LCS Dup (BDE0119-BSD1)				Prepared & Analyzed: 05/05/2020						
Sulfide	4.50	1	mg/L	5.00		90.0	80-120	3.06	20	
Matrix Spike (BDE0119-MS1)				Source: 20E0002-07		Prepared & Analyzed: 05/05/2020				
Sulfide	6.00	1.00	mg/L	5.00	BLOD	120	75-125			
Matrix Spike Dup (BDE0119-MSD1)				Source: 20E0002-07		Prepared & Analyzed: 05/05/2020				
Sulfide	6.10	1.00	mg/L	5.00	BLOD	122	75-125	1.65	20	
Batch BDE0286 - No Prep Wet Chem										
Blank (BDE0286-BLK1)				Prepared & Analyzed: 05/09/2020						
Alkalinity	ND	5.0	mg/L							
LCS (BDE0286-BS1)				Prepared & Analyzed: 05/09/2020						
Alkalinity	51.0	5.0	mg/L	50.0		102	80-120			
Matrix Spike (BDE0286-MS1)				Source: 20E0317-04		Prepared & Analyzed: 05/09/2020				
Alkalinity	65.0	5.0	mg/L	50.0	14.0	102	75-125			
Matrix Spike Dup (BDE0286-MSD1)				Source: 20E0317-04		Prepared & Analyzed: 05/09/2020				
Alkalinity	66.0	5.0	mg/L	50.0	14.0	104	75-125	1.53	20	
Batch BDE0378 - No Prep Wet Chem										
Blank (BDE0378-BLK1)				Prepared & Analyzed: 05/12/2020						
Nitrate+Nitrite as N	ND	0.10	mg/L							



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0378 - No Prep Wet Chem										
LCS (BDE0378-BS1)				Prepared & Analyzed: 05/12/2020						
Nitrate+Nitrite as N	2.63	0.1	mg/L	2.50		105	90-110			
Matrix Spike (BDE0378-MS1)				Prepared & Analyzed: 05/12/2020						
Nitrate+Nitrite as N	2.83	0.1	mg/L	2.50	0.12	108	90-110			
Matrix Spike Dup (BDE0378-MSD1)				Prepared & Analyzed: 05/12/2020						
Nitrate+Nitrite as N	2.90	0.1	mg/L	2.50	0.12	111	90-110	2.48	20	M



Certificate of Analysis

Client Name: Golder Associates, Inc.
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Date Issued: 5/14/2020 5:13:20PM

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method:	EPA200.2/R2.8	
20E0001-01	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-06	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-11	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-12	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-13	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-14	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-15	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-16	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-17	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-18	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-19	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
20E0001-20	50.0 mL / 50.0 mL	SW6010C	BDE0024	SDE0080	AE00013
Wet Chemistry Analysis			Preparation Method:	No Prep IC	
20E0001-02	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0066	SDE0087	AC00131
20E0001-04	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0066	SDE0087	AC00131
20E0001-07	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0066	SDE0087	AC00131
20E0001-08	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0066	SDE0087	AC00131
20E0001-09	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0066	SDE0087	AC00131
20E0001-07RE1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BDE0097	SDE0124	AC00131
Head Space Analysis by GC			Preparation Method:	No Prep VOC	
20E0001-02	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121



Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	No Prep VOC	
20E0001-04	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121
20E0001-07	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121
20E0001-08	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121
20E0001-08RE1	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121
20E0001-09	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121
20E0001-10	5.00 mL / 5.00 mL	RSK175M	BDE0034	SDE0033	AH90121

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method:	No Prep Wet Chem	
20E0001-02	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BDE0015	SDE0384	AA00021
20E0001-04	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BDE0015	SDE0384	AA00021
20E0001-07	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BDE0015	SDE0384	AA00021
20E0001-08	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BDE0015	SDE0384	AA00021
20E0001-09	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BDE0015	SDE0384	AA00021
20E0001-02	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0001-04	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0001-07	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0001-08	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0001-09	6.00 mL / 6.00 mL	SW9215	BDE0119	SDE0115	
20E0001-02	50.0 mL / 50.0 mL	SM22 2320B-2011	BDE0286	SDE0250	
20E0001-04	100 mL / 100 mL	SM22 2320B-2011	BDE0286	SDE0250	
20E0001-07	50.0 mL / 50.0 mL	SM22 2320B-2011	BDE0286	SDE0250	
20E0001-08	100 mL / 100 mL	SM22 2320B-2011	BDE0286	SDE0250	
20E0001-09	50.0 mL / 50.0 mL	SM22 2320B-2011	BDE0286	SDE0250	
20E0001-02	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BDE0378	SDE0324	AE00058
20E0001-04	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BDE0378	SDE0324	AE00058
20E0001-07	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BDE0378	SDE0324	AE00058
20E0001-08	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BDE0378	SDE0324	AE00058



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			Preparation Method: No Prep Wet Chem		
20E0001-09	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BDE0378	SDE0324	AE00058

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GCMS			Preparation Method: SW5030B		
20E0001-01	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-02	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-03	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-05	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-06	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-07	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-08	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-09	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-10	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-11	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-12	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-13	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-14	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-15	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-16	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-17	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-18	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-19	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009
20E0001-20	5.00 mL / 5.00 mL	SW8260D	BDE0016	SDE0014	AD00009

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
20E0001-02	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0001-03	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048



Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 5/14/2020 5:13:20PM

Client Site I.D.: Laurel Valley LF

Submitted To: Michele Clary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Metals (Total) by EPA 6000/7000 Series Methods			Preparation Method: SW7470A		
20E0001-05	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0001-07	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0001-08	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048
20E0001-09	20.0 mL / 20.0 mL	SW7470A	BDE0299	SDE0277	AE00048



Certificate of Analysis

Client Name: Golder Associates, Inc.
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Date Issued: 5/14/2020 5:13:20PM

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA300.0 R2.1 in Non-Potable Water</i>	
Chloride	VELAP,NC,WVDEP,PADEP
Sulfate	VELAP,NC,WVDEP
<i>RSK175M in Non-Potable Water</i>	
Methane	VELAP
<i>SM22 2320B-2011 in Non-Potable Water</i>	
Alkalinity	VELAP,WVDEP,PADEP
<i>SM22 4500-NO2B-2011 in Non-Potable Water</i>	
Nitrite as N	VELAP,WVDEP
<i>SM22 4500-NO3F-2011 in Non-Potable Water</i>	
Nitrate+Nitrite as N	VELAP,WVDEP
<i>SW6010C in Non-Potable Water</i>	
Cobalt	VELAP,WVDEP
<i>SW7470A in Non-Potable Water</i>	
Mercury	VELAP,NC,WVDEP
<i>SW8260D in Non-Potable Water</i>	
1,1,1,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,1-Trichloroethane	NC,VELAP,WVDEP
1,1,2,2-Tetrachloroethane	NC,VELAP,WVDEP
1,1,2-Trichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethane	NC,VELAP,WVDEP
1,1-Dichloroethylene	NC,VELAP,WVDEP
1,2,3-Trichloropropane	NC,VELAP,WVDEP
1,2-Dichlorobenzene	NC,VELAP,WVDEP
1,2-Dichloroethane	NC,VELAP,WVDEP



Certificate of Analysis

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Date Issued: 5/14/2020 5:13:20PM

Certified Analyses included in this Report

<u>Analyte</u>	<u>Certifications</u>
1,2-Dichloropropane	NC,VELAP,WVDEP
1,4-Dichlorobenzene	NC,VELAP,WVDEP
2-Butanone (MEK)	NC,VELAP,WVDEP
2-Hexanone (MBK)	NC,VELAP,WVDEP
4-Methyl-2-pentanone (MIBK)	NC,VELAP,WVDEP
Acetone	NC,VELAP,WVDEP
Acrylonitrile	NC,VELAP,WVDEP
Benzene	NC,VELAP,WVDEP
Bromochloromethane	NC,VELAP,WVDEP
Bromodichloromethane	NC,VELAP,WVDEP
Bromoform	NC,VELAP,WVDEP
Bromomethane	NC,VELAP,WVDEP
Carbon disulfide	NC,VELAP,WVDEP
Carbon tetrachloride	NC,VELAP,WVDEP
Chlorobenzene	NC,VELAP,WVDEP
Chloroethane	NC,VELAP,WVDEP
Chloroform	NC,VELAP,WVDEP
Chloromethane	NC,VELAP,WVDEP
cis-1,2-Dichloroethylene	NC,VELAP,WVDEP
cis-1,3-Dichloropropene	NC,VELAP,WVDEP
Dibromochloromethane	NC,VELAP,WVDEP
Dibromomethane	NC,VELAP,WVDEP
Dichlorodifluoromethane	NC,VELAP,WVDEP
Ethylbenzene	NC,VELAP,WVDEP
Iodomethane	NC,VELAP,WVDEP
m+p-Xylenes	NC,VELAP,WVDEP
Methylene chloride	NC,VELAP,WVDEP
Naphthalene	NC,VELAP,WVDEP



Certificate of Analysis

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Date Issued: 5/14/2020 5:13:20PM

Certified Analyses included in this Report

Analyte	Certifications
o-Xylene	NC,VELAP,WVDEP
Styrene	NC,VELAP,WVDEP
Tetrachloroethylene (PCE)	NC,VELAP,WVDEP
Toluene	NC,VELAP,WVDEP
trans-1,2-Dichloroethylene	NC,VELAP,WVDEP
trans-1,3-Dichloropropene	NC,VELAP,WVDEP
trans-1,4-Dichloro-2-butene	NC,VELAP,WVDEP
Trichloroethylene	NC,VELAP,WVDEP
Trichlorofluoromethane	NC,VELAP,WVDEP
Vinyl acetate	NC,VELAP,WVDEP
Vinyl chloride	NC,VELAP,WVDEP
Xylenes, Total	NC,VELAP,WVDEP
SW9215 in Non-Potable Water	
Sulfide	VELAP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
NCDOH	North Carolina Department of Health	51714	07/31/2020
NJDEP	New Jersey DEP	VA015	06/30/2020
PADEP	NELAC-Pennsylvania Certificate #005	68-03503	10/31/2020
VELAP	NELAC-Virginia Certificate #10637	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2020



Certificate of Analysis

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Submitted To: Michele Clary

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Qualifiers and Definitions

J	The reported result is an estimated value.
L	LCS recovery is outside of established acceptance limits
M	Matrix spike recovery is outside established acceptance limits
RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.



1541 BOWEN BLVD
 RICHMOND, VIRGINIA 23261
 (804) 551-0900 FAX
 (804) 551-0911 FAX

Quality Control
 Effective 04/02/03

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Golden Associates	INVOICE TO: <i>Golden Associates</i>	PROJECT NAME/Order #: <i>1541 Bowen Blvd. CA</i>
CONTACT: <i>Michelle Clay</i>	INVOICE CONTACT: <i>Michelle Clay</i>	SITE NAME: <i>Land Valley Corrective Action Wells, LLC</i>
ADDRESS: <i>2188 W. Laburnum Ave., Suite 200</i>	INVOICE ADDRESS:	PROJECT NUMBER: <i>PR15048-001</i>
PHONE #: <i>804-358-7508</i>	INVOICE PHONE #:	P.O.#:

FACE: *104-500-0100* EMAIL: *golden@golden.com* Precedence Program:

Is sample for compliance reporting? YES NO Regulatory State: *VA* Is sample from a controlled supply? YES NO PYSID #:

SAMPLER NAME (PRINT): *1541 Bowen Blvd. CA* SAMPLER SIGNATURE: *[Signature]* Turn Around Time: *Code 1 5 Days or Less*

Matrix Codes: *100-Blank/100-Blank Plus 100-Ground Water 100-Drinking Water 100-Soil/100-Soil Vapor 100-Other*

CLIENT SAMPLE ID	Grain Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grain Date or Composite Stop Date	Grain Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS REPRESENTATIVE							COMMENTS	
										VOC THM & TA r Dichlorodibromomethane	Co 200010	Hg 500470	Aspiration 400000	semivolatile, aromatic, Chloride, Sulfide	Methane 400175	Surfact		
1) MW-X1	X		/		4/29/03	0400	0400	0400	1	X	X	X	X	X	X		Full report provided	
2) MW-X2	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X	X	X		provided	
3) MW-X2-D	X			4/29/03	0400	0400	0400	0400	1	X	X							provided
4) MW-10	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X	X	X			provided
5) CLF-2	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X					analytical
6) CLF-50	X			4/29/03	0400	0400	0400	0400	1	X	X	X						analytical
7) CLF-10A	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X	X	X			analytical
8) PE-10	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X	X	X			
9) CLF-53	X			4/29/03	0400	0400	0400	0400	1	X	X	X	X	X	X			
10) TROBAC										1	X	X	X	X	X	X		

RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>	RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>	GC 2000 Package	LAB USE ONLY: <i>[Signature]</i> DATE: <i>4/30/03</i>	COOL OFF TIME: <i>[Signature]</i> DATE: <i>4/30/03</i>
RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>	RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>	<i>Level 3</i>	GA	2462001
RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>	RECEIVED: <i>[Signature]</i> DATE: <i>4/30/03</i>		Land Valley Corrective Action	Rev: 4512401 Date: 4/15/03



1411 BOWEN ROAD
 BIRMINGHAM, ALABAMA 35202
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CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Golden Associates	INVOICE TO: <u>LeDipre County</u>	PROJECT NUMBER: <u>1534001 - 1A, 1B</u>
CONTACT: Michele Clary	INVOICE CONTACT: <u>Paul Forward</u>	SITE NAME: <u>Land Valley Correctional Institute, Level II</u>
ADDRESS: 2108 W. Latham Ave, Suite 200	INVOICE ADDRESS:	PROJECT NUMBER: <u>1534001 - 1A, 1B</u>
PHONE #: 884-358-7800	INVOICE PHONE #:	P.O. #:
FAX #: 884-353-2100	EMAIL: <u>INVOICE@GOLDEN.COM</u>	Prepared Program:
Is sample for compliance reporting? <input checked="" type="radio"/> YES <input type="radio"/> NO (Regulatory State: <u>FL</u>)	Is sample from a chelated supply? YES <input checked="" type="radio"/> NO <input type="radio"/> YES	PHS U.S. #:
SAMPLER NAME (PRINT): <u>M. Clary</u>	SAMPLER SIGNATURE: <u>[Signature]</u>	Turn Around Time: Circle <input checked="" type="radio"/> 3 Days or <input type="radio"/> 5 Days

Media Codes: MR=Microbial Resistant Bacter. DR=Drugs and/or Pesticides. OR=Organic Analytes. MR=Microbial Resistant Bacter. DR=Drugs and/or Pesticides. OR=Organic Analytes.

CLIENT SAMPLE ID.	DATE	COMPOSITE	DATE PREPARED (Dissolved Metals)	COMPOSITE START DATE	COMPOSITE START TIME	GRAB DATE OF COMPOSITE STOP DATE	GRAB TIME OF COMPOSITE STOP TIME	TIME PRESERVED	ANALYTE (See Codes)	AMOUNT OF CYCLOSPORIN	ANALYZES BY PRE-SEPARATION:							COMMENTS			
											VOC THU 8-1A + DIBENZO(A,H)ANTHRACENE	CO 856610	HQ 8567470	INORGANIC AMMONIUM	AMMONIUM NITRATE, NITRITATE, CHLORIDE, SULFATE	METALS 856611A	SULFIDE				
1) MW-1C	4/29/20	X		NA		4/29/20	12:00	24H	CO	4	X	X									
2) MW-1D	4/29/20	X					4/29/20	12:05	24H	CO	4	X	X								
3) MW-1E	4/29/20	X					4/29/20	12:10	24H	CO	4	X	X								
4) MW-1F	4/29/20	X					4/29/20	12:15	24H	CO	4	X	X								
5) PLV-1G	4/29/20	X					4/29/20	12:20	24H	CO	4	X	X								
6) MW-1H	4/29/20	X					4/29/20	12:25	24H	CO	4	X	X								
7) MW-1I	4/29/20	X					4/29/20	12:30	24H	CO	4	X	X								
8) PLV-3	4/29/20	X					4/29/20	12:35	24H	CO	4	X	X								
9) MW-5	4/29/20	X					4/29/20	12:40	24H	CO	4	X	X								
10) MW-2	4/29/20	X					4/29/20	12:45	24H	CO	4	X	X								

RELEASED	DATE / TIME	RECEIVED	DATE / TIME	QC Data Package	LAB USE ONLY	FORM ID: <u>CL-1</u>	CHANGER TAG: <u>1534001</u>
<u>M. Clary</u>	<u>4/29/20 14H</u>	<u>ASPA</u>	<u>4/30/20 16H</u>				
RELEASED	DATE / TIME	RECEIVED	DATE / TIME	Level: <u>II</u>			

Land Valley Correctional Institute
 Rev: 05/08/05 Doc: 05/15



Sample Preservation Log

Sample Preservation Log
 Form # F1309
 Rev # 02
 Effective Nov 13 2016
 Page 1 of 1

Order ID: 1060001

Date Performed: 05/01/2020

Analyst Performing Check: ABC

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos. Tot		NO1-NO2		ORO		Pesticide (001/005/008)		SVOC (025/002/0025)		CVM		Pesticide (008/001/000/025)		
		ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	ppm Residual	Free of (0.0001)	
		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
01	A	✓																								
02	B	✓																								
02	F													✓												
02	G					✓																				
03	A	✓																								
04	E													✓												
04	F					✓																				
05	A	✓																								
06	A	✓																								
07	B	✓																								
07	F													✓												
07	G					✓																				
08	B	✓																								
08	E													✓												
08	G					✓																				

NaOH ID: _____ HNO₃ ID: _____ CVM preserved date/time: _____ Analyst Initials: _____
 H₂SO₄ ID: _____ Na₂SO₄ ID: _____ * pH must be adjusted between 8.3 - 8.7
 HCL ID: _____ Na₂CO₃ ID: _____ Buffer Soft ID: _____
 1M NaOH ID: _____ 5N NaOH: _____

* This is only certified ODS CVM and not T. CVM is an approved analyte under 40CFR103 for waste water.



Sample Preservation Log

Sample Preservation Log
Form # 808
Rev. 03/01
EPA-823-R-01-001

Date:

Date Performed: 03/06/00

Analyte Pertaining Check:

Sample ID	Time	Acid		Buffer		Temperature		pH	Pres. Type	ACID/ACID	DMS	Preserve		DOC		Other	Remarks
		Pre	Post	Pre	Post	Pre	Post					Pre	Post	Pre	Post		
09	50	✓															
09	8									✓							
09	6			✓													
11	AM																
12	AM																
13	AM																
14	AM																
15	AM	✓															
16	AM																
17	AM																
18	AM																
19	AM																
20	AM																

HCl ID: _____ HCl ID: _____ [C] preserved samples _____ Acid/Buffer _____
 H₂SO₄ ID: _____ H₂SO₄ ID: _____ [P] preserved samples J.P.-B.1
 Buffer ID: _____
 HCl ID: _____ H₂SO₄ ID: _____ [T] NaOH ID: _____ [B] NaOH _____



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/14/2020 5:13:20PM

Sample Conditions Checklist

Samples Received at:	2.90°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	No
Do all bottle labels agree with custody papers?	No
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	Yes
Are all volatile organic and TOX containers free of headspace?	Yes
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	Yes
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 5/14/2020 5:13:20PM

Client Site I.D.: Laurel Valley LF

Submitted To: Michele Clary

Sample container labels for samples CLF-1 and CLF-S1 list sample collection times as 11:25 (CLF), and 10:10 (CLF-S1). COC lists times as 10:10 (CLF), and 11:25 (CLF-S1). Logged per COC, Michele Clary notified via email. GMC 05/01/2020 12:00

Sample collection times updated to match sample container labels per Michele Clary via email. GMC 05/01/2020 12:19

Trip Blank date and time (13 Apr 2020/13.30) as per the bottle label. THM 1 May 2020/12.54

As per Michele Clary, CLF-1 was collected in container labeled as CLF-S1 at 1010 and CLF-S1 was collected in CLF-1 container at 1125. SWS 5/1/20



Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name:

Date Issued:

Client Site ID:

Submitted To:

Laboratory Sample ID:

Client Sample ID:

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
-----------	---------	------------------	----------------	------	-----	-----	-------------	-------

There are no reportable results for target analytes in this report.

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 20E0792

Client Name: Golder Associates, Inc.
2108 W. Laburnum Ave. Suite 200
Richmond, VA 23227

Date Received: May 18, 2020 16:03
Date Issued: May 22, 2020 16:46
Project Number: 19115362.100
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley LF

Enclosed are the results of analyses for samples received by the laboratory on 05/18/2020 16:03. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

A handwritten signature in black ink that reads "Ted Soyars".

Ted Soyars
Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 5/22/2020 4:46:03PM

Client Site I.D.: Laurel Valley LF

Submitted To: Michele Clary

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	20E0792-01	Ground Water	05/18/2020 12:45	05/18/2020 16:03



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Client Sample ID: MW-20

Laboratory Sample ID: 20E0792-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
Organochlorine Pesticides and PCBs by GC/ECD												
gamma-Chlordane	01	5103-74-2	SW8081B	05/19/2020 09:45	05/19/2020 23:45	BLOD		0.005	0.053	1	ug/L	LBH2
Surr: TCMX	01	50.0 %	18-112	05/19/2020 09:45	05/19/2020 23:45							
Surr: DCB	01	30.3 %	27-131	05/19/2020 09:45	05/19/2020 23:45							



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0592 - SW3510C										
Blank (BDE0592-BLK1)										
Prepared & Analyzed: 05/19/2020										
gamma-Chlordane	ND	0.050	ug/L							
<i>Surr: TCMX</i>	<i>0.150</i>		ug/L	<i>0.200</i>		<i>75.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.148</i>		ug/L	<i>0.200</i>		<i>73.8</i>	<i>27-131</i>			
LCS (BDE0592-BS1)										
Prepared & Analyzed: 05/19/2020										
4,4'-DDD	0.083	0.050	ug/L	0.100		83.3	23-134			
4,4'-DDE	0.081	0.050	ug/L	0.100		80.7	23-134			
4,4'-DDT	0.077	0.050	ug/L	0.100		77.4	23-134			
Aldrin	0.070	0.050	ug/L	0.100		70.2	23-134			
alpha-BHC	0.074	0.050	ug/L	0.100		73.7	23-134			
beta-BHC	0.083	0.050	ug/L	0.100		82.7	23-134			
delta-BHC	0.076	0.050	ug/L	0.100		75.9	23-134			
Dieldrin	0.084	0.050	ug/L	0.100		83.8	23-134			
Endosulfan I	0.083	0.050	ug/L	0.100		82.8	23-134			
Endosulfan II	0.094	0.050	ug/L	0.100		93.6	23-134			
Endosulfan sulfate	0.080	0.050	ug/L	0.100		80.4	23-134			
Endrin	0.083	0.050	ug/L	0.100		83.0	23-134			
Endrin aldehyde	0.073	0.050	ug/L	0.100		72.8	23-134			
gamma-BHC (Lindane)	0.072	0.050	ug/L	0.100		72.3	23-134			
Heptachlor	0.066	0.050	ug/L	0.100		66.5	23-134			
Heptachlor epoxide	0.084	0.050	ug/L	0.100		84.0	23-134			
Methoxychlor	0.077	0.050	ug/L	0.100		77.2	23-134			
Mirex	0.073	0.050	ug/L	0.100		73.2	23-134			
<i>Surr: TCMX</i>	<i>0.148</i>		ug/L	<i>0.200</i>		<i>74.0</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.158</i>		ug/L	<i>0.200</i>		<i>79.0</i>	<i>27-131</i>			



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0592 - SW3510C										
LCS (BDE0592-BS3)				Prepared & Analyzed: 05/19/2020						
Toxaphene	2.18	1.00	ug/L	2.50		87.1	23-134			
LCS (BDE0592-BS4)				Prepared & Analyzed: 05/19/2020						
Chlordane	2.37	0.200	ug/L	2.50		95.0	23-134			
Matrix Spike (BDE0592-MS1)		Source: 20E0709-10		Prepared & Analyzed: 05/19/2020						
4,4'-DDD	0.087	0.050	ug/L	0.100	BLOD	86.7	23-134			
4,4'-DDE	0.082	0.050	ug/L	0.100	BLOD	81.9	23-134			
4,4'-DDT	0.103	0.050	ug/L	0.100	BLOD	103	23-134			
Aldrin	0.060	0.050	ug/L	0.100	BLOD	60.5	23-134			
alpha-BHC	0.073	0.050	ug/L	0.100	BLOD	72.6	23-134			
beta-BHC	0.071	0.050	ug/L	0.100	BLOD	71.3	23-134			
delta-BHC	0.075	0.050	ug/L	0.100	BLOD	74.8	23-134			
Dieldrin	0.083	0.050	ug/L	0.100	BLOD	83.0	23-134			
Endosulfan I	0.082	0.050	ug/L	0.100	BLOD	82.2	23-134			
Endosulfan II	0.100	0.050	ug/L	0.100	BLOD	100	23-134			
Endosulfan sulfate	0.078	0.050	ug/L	0.100	BLOD	77.7	23-134			
Endrin	0.086	0.050	ug/L	0.100	BLOD	85.6	23-134			
Endrin aldehyde	0.080	0.050	ug/L	0.100	BLOD	80.2	23-134			
gamma-BHC (Lindane)	0.071	0.050	ug/L	0.100	BLOD	71.1	23-134			
Heptachlor	0.068	0.050	ug/L	0.100	BLOD	67.8	23-134			
Heptachlor epoxide	0.082	0.050	ug/L	0.100	BLOD	82.0	23-134			
Methoxychlor	0.098	0.050	ug/L	0.100	BLOD	97.6	23-134			
Mirex	0.072	0.050	ug/L	0.100	BLOD	72.1	23-134			
<i>Surr: TCMX</i>	<i>0.141</i>		ug/L	<i>0.200</i>		<i>70.5</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.168</i>		ug/L	<i>0.200</i>		<i>84.1</i>	<i>27-131</i>			



Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, Virginia 23237
 (804)-358-8295 - Telephone
 (804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDE0592 - SW3510C										
Matrix Spike Dup (BDE0592-MSD1)		Source: 20E0709-10			Prepared & Analyzed: 05/19/2020					
4,4'-DDD	0.094	0.050	ug/L	0.100	BLOD	94.3	23-134	8.46	20	
4,4'-DDE	0.082	0.050	ug/L	0.100	BLOD	81.8	23-134	0.0489	20	
4,4'-DDT	0.098	0.050	ug/L	0.100	BLOD	98.3	23-134	4.62	20	
Aldrin	0.055	0.050	ug/L	0.100	BLOD	54.8	23-134	9.95	20	
alpha-BHC	0.065	0.050	ug/L	0.100	BLOD	64.9	23-134	11.3	20	
beta-BHC	0.071	0.050	ug/L	0.100	BLOD	70.9	23-134	0.633	20	
delta-BHC	0.075	0.050	ug/L	0.100	BLOD	75.3	23-134	0.573	20	
Dieldrin	0.082	0.050	ug/L	0.100	BLOD	82.4	23-134	0.702	20	
Endosulfan I	0.078	0.050	ug/L	0.100	BLOD	78.0	23-134	5.23	20	
Endosulfan II	0.107	0.050	ug/L	0.100	BLOD	107	23-134	6.75	20	
Endosulfan sulfate	0.089	0.050	ug/L	0.100	BLOD	89.1	23-134	13.7	20	
Endrin	0.087	0.050	ug/L	0.100	BLOD	87.2	23-134	1.90	20	
Endrin aldehyde	0.088	0.050	ug/L	0.100	BLOD	87.8	23-134	9.01	20	
gamma-BHC (Lindane)	0.061	0.050	ug/L	0.100	BLOD	61.1	23-134	15.2	20	
Heptachlor	0.060	0.050	ug/L	0.100	BLOD	59.9	23-134	12.4	20	
Heptachlor epoxide	0.077	0.050	ug/L	0.100	BLOD	76.9	23-134	6.38	20	
Methoxychlor	0.111	0.050	ug/L	0.100	BLOD	111	23-134	12.5	20	
Mirex	0.080	0.050	ug/L	0.100	BLOD	80.1	23-134	10.5	20	
<i>Surr: TCMX</i>	<i>0.119</i>		ug/L	<i>0.200</i>		<i>59.3</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.169</i>		ug/L	<i>0.200</i>		<i>84.7</i>	<i>27-131</i>			



Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 5/22/2020 4:46:03PM

Client Site I.D.: Laurel Valley LF

Submitted To: Michele Clary

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Organochlorine Pesticides and PCBs by GC/ECD			Preparation Method:	SW3510C	
20E0792-01	940 mL / 1.00 mL	SW8081B	BDE0592	SDE0587	AD00099



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Certified Analyses included in this Report

Analyte	Certifications
<i>SW8081B in Non-Potable Water</i>	
gamma-Chlordane	NC,VELAP,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
NCDOH	North Carolina Department of Health	51714	07/31/2020
NJDEP	New Jersey DEP	VA015	06/30/2020
PADEP	NELAC-Pennsylvania Certificate #005	68-03503	10/31/2020
VELAP	NELAC-Virginia Certificate #10637	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2020



Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Laurel Valley LF
Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

Qualifiers and Definitions

RPD Relative Percent Difference

Qual Qualifiers

-RE Denotes sample was re-analyzed

LOD Limit of Detection

BLOD Below Limit of Detection

LOQ Limit of Quantitation

DF Dilution Factor

TIC Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

CHAIN OF CUSTODY

COMPANY NAME: <u>Golder Associates</u>	INVOICE TO: <u>Calpeper County</u>	PROJECT NAME/Quote #: <u>ISA20 MW-20 Resample</u>
CONTACT: <u>Michelle Clary</u>	INVOICE CONTACT: <u>Paul Howard</u>	SITE NAME: <u>Laurel Valley LF</u>
ADDRESS: <u>2024 N. Lakeshore Ave., Richmond, Virginia 23220</u>	INVOICE ADDRESS:	PROJECT NUMBER: <u>19115362.100</u>
PHONE #: <u>(804)-358-7900</u>	INVOICE PHONE #:	P.O. #:
FAX #: <u>(804) 358-2989</u>	EMAIL: <u>mclary@golder.com</u>	Pre-treatment Program:
Is sample for compliance reporting? <u>YES</u> NO	Regulatory State: <u>VA</u>	Is sample from a chlorinated supply? YES <u>NO</u>
PWS ID. #:		

SAMPLER NAME (PRINT): M. Taylor SAMPLER SIGNATURE: M Taylor Turn Around Time: 10 Days or 5 Day(s)
* NEED 5+ 5-22-2020 *

Matrix Codes: WW-Waste Water SW-Storm Water GW-Ground Water DW-Drinking Water S-Soil/Solids OB-Organic A/C SP-Sludge OT-Other

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	gamma Chlorine (808)	ANALYSIS / (PRESERVATIVE)								COMMENTS
1) <u>MW-20</u>	<u>X</u>					<u>5-18-2020</u>	<u>045</u>	<u>0245</u>	<u>GW</u>	<u>1</u>	<u>X</u>									Preservative Codes: M-HCl, A-Ascorbic Acid, D-Hydrochloric Acid, S-Sulfuric Acid, H-Sodium Hydroxide, A-Ascorbic Acid, Z-Zinc Acetate, T-Sodium Thiosulfate, M-Methanol PLEASE NOTE PRESERVATIVES INTERFERENCE CHECKS or PUMP RATE(S) (ml)
2)																				
3)																				
4)																				
5)																				
6)																				
7)																				
8)																				
9)																				

DISPATCHED: <u>M. Taylor</u> DATE / TIME: <u>5/18/2020 1603</u> RECEIVED: <u>U. Howell</u> DATE / TIME: <u>5/18/2020 1603</u>	QC Data Package Level III <input type="checkbox"/> Level IV <input type="checkbox"/> <u>Level II</u>	LAB USE ONLY Therm <u>21.1</u> COOLER TEMP <u>4.4</u> °C Custody Seals used and intact <input checked="" type="checkbox"/> (Y) <input type="checkbox"/> (N) Received on <u>5/18/2020</u>
DISPATCHED: _____ DATE / TIME: _____ RECEIVED: _____ DATE / TIME: _____		GA 20E0792 Laurel Valley Compliance Wells Recd: 05/18/2020 Due: 05/22/2020



Certificate of Analysis

Client Name: Golder Associates, Inc.
 Client Site I.D.: Laurel Valley LF
 Submitted To: Michele Clary

Date Issued: 5/22/2020 4:46:03PM

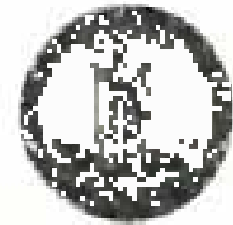
Sample Conditions Checklist

Samples Received at:	9.40°C
How were samples received?	Walk In
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments



COMMONWEALTH OF VIRGINIA
 DEPARTMENT OF GENERAL SERVICES
 DIVISION OF CONSOLIDATED LABORATORY SERVICES



Certifies that

VA Laboratory ID#: 460024
 Air Water & Soil Laboratories, Inc.
 1941 Reynard Road
 Richmond VA 23237

is duly qualified to perform the following
 environmental laboratory services:

Having met the requirements of 16VAC 104-5-401
 being deemed to be compliant with the 2003 VA Standards approved by the VA AC Institute
 is hereby approved as an

Accredited Environmental Laboratory

as shown by reference to the Virginia Board of Accreditation

Effective Date: September 16, 2024

Expiration Date: June 14, 2027

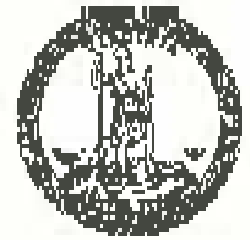
License #: 11664

Conditions and limitations of this approval are contained in the approved Virginia Environmental Laboratory Accreditation Standards
 as published by the Department of General Services, Division of Consolidated Laboratory Services
 and are available to the public on the Department of General Services Environmental Laboratory Accreditation Website: www.dgs.gov
 Office of Regulatory Affairs
 Department of General Services, 100 North 17th Street, Richmond, VA 23219

THOMAS M. TERRY, JR., P.E., Ph.D.
 Public Safety Director for Laboratory Services



Commonwealth of Virginia
Department of General Services
Division of Consolidated Laboratory Services



Scope of Accreditation

VCLAP Certificate No. 11084

Air Water & Soil Laboratories, Inc.
 1841 Keyway Road
 Highstown, VA 23037

Virginia Laboratory ID: 450021
 Effective Date: September 10, 2020
 Expiration Date: June 14, 2021

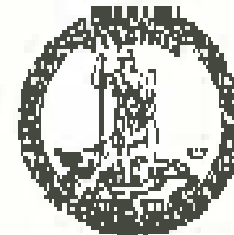
AIR

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA TO-14A 2nd Ed - EXTENDED	2-CHLOROTOLUENE	VA	EPA TO-14A 2nd Ed - EXTENDED	2-HEXANONE	VA
EPA TO-14A 2nd Ed - EXTENDED	4-ETHYLTOLUENE	VA	EPA TO-14A 2nd Ed - EXTENDED	4-METHYLCYCLOHEXANONE (METHYL ISOBUTYL ME KETONE, MIBK)	VA
EPA TO-14A 2nd Ed - EXTENDED	ACETONE	VA	EPA TO-14A 2nd Ed - EXTENDED	ACROLEIN (PROPENAL)	VA
EPA TO-14A 2nd Ed - EXTENDED	ALLYL CHLORIDE (3-CHLOROALLYLCHLORIDE)	VA	EPA TO-14A 2nd Ed - EXTENDED	BROMODICHLOROETHANE	VA
EPA TO-14A 2nd Ed - EXTENDED	CARBON DISULFIDE	VA	EPA TO-14A 2nd Ed - EXTENDED	CHLORODIBROMOMETHANE	VA
EPA TO-14A 2nd Ed - EXTENDED	CYCLOHEXANE	VA	EPA TO-14A 2nd Ed - EXTENDED	ETHANOL	VA
EPA TO-14A 2nd Ed - EXTENDED	ETHYLACETATE	VA	EPA TO-14A 2nd Ed - EXTENDED	ISOBUTYLALCOHOL (2-METHYL-1-PROPANOL)	VA
EPA TO-14A 2nd Ed - EXTENDED	ISOOCTANE (2-METHYLNAPHTANE)	VA	EPA TO-14A 2nd Ed - EXTENDED	ISOPROPYLBENZENE	VA
EPA TO-14A 2nd Ed - EXTENDED	METHYL METHACRYLATE	VA	EPA TO-14A 2nd Ed - EXTENDED	METHYL TERT-BUTYL ETHER (MTBE)	VA
EPA TO-14A 2nd Ed - EXTENDED	N-BUTANE	VA	EPA TO-14A 2nd Ed - EXTENDED	N-HEPTANE	VA
EPA TO-14A 2nd Ed - EXTENDED	N-HEXANE	VA	EPA TO-14A 2nd Ed - EXTENDED	N-NONANE	VA
EPA TO-14A 2nd Ed - EXTENDED	N-HEPTANE	VA	EPA TO-14A 2nd Ed - EXTENDED	N-PROPYL BENZENE	VA
EPA TO-14A 2nd Ed - EXTENDED	PARAFFIN (PARAFFIN)	VA	EPA TO-14A 2nd Ed - EXTENDED	TERT-BUTYLALCOHOL (2-METHYL-2-PROPANOL)	VA
EPA TO-14A 2nd Ed - EXTENDED	TETRAHYDROFURAN (THF)	VA	EPA TO-14A 2nd Ed - EXTENDED	VINYL ACRYLATE	VA
EPA TO-14A 2nd Ed - EXTENDED	VINYL BROMIDE (BROMOETHENE)	VA	EPA TO-15 2nd Ed	ACETONE (MEK)	VA
EPA TO-15 2nd Ed	1,1,1-TRICHLOROETHANE	VA	EPA TO-15 2nd Ed	1,1,2,2-TETRACHLOROETHANE	VA
EPA TO-15 2nd Ed	1,1,2-TRICHLORO-1,1,2-TRIFLUOROETHANE (PERCLO 113)	VA	EPA TO-15 2nd Ed	1,1-DICHLOROPETHYLENE	VA
EPA TO-15 2nd Ed	1,1-DICHLOROETHANE	VA	EPA TO-15 2nd Ed	1,2-DICHLOROETHANE (DCE)	VA
EPA TO-15 2nd Ed	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	VA	EPA TO-15 2nd Ed	1,2-DICHLORO-1,1,2,2-TETRACHLOROETHANE (PERCLO 114)	VA
EPA TO-15 2nd Ed	1,2-DICHLOROETHANE (DCE)	VA	EPA TO-15 2nd Ed	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	VA
EPA TO-15 2nd Ed	1,2-DICHLOROPENTANE	VA	EPA TO-15 2nd Ed	1,2,3-TRIMETHYLBENZENE	VA
EPA TO-15 2nd Ed	1,3-BUTADIENE	VA	EPA TO-15 2nd Ed	1,3-DICHLOROETHANE (METHYL CHLORIDE)	VA
EPA TO-15 2nd Ed	1,4-DICHLOROBENZENE (DICHLORODIBENZENE)	VA	EPA TO-15 2nd Ed	1-METHYL-3-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	VA
EPA TO-15 2nd Ed	3-BUTANONE (METHYL ETHYL KETONE, MEK)	VA	EPA TO-15 2nd Ed	ALLYL CHLORIDE (3-CHLORO)PROPYLENE	VA
EPA TO-15 2nd Ed	ACROLEIN (PROPENAL)	VA			
EPA TO-15 2nd Ed	BENZENE	VA			

THIS SCOPE OF ACCREDITATION MUST ACCOMPANY THE CERTIFICATE ISSUED BY VIRGINIA LCLAS WITH THE SAME CERTIFICATE NUMBER INDICATED ABOVE.



Commonwealth of Virginia
 Department of General Services
 Division of Consolidated Laboratory Services



Scope of Accreditation

VELAP Certificate No. 17004

Air Water & Soil Laboratories, Inc.
 1941 Reymor Road
 Richmond, VA 23237

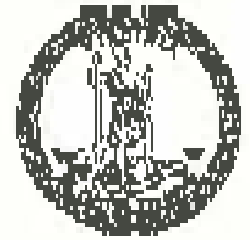
Virginia Laboratory ID: 460024
 Effective Date: September 10, 2020
 Expiration Date: June 14, 2021

AIR

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA TO-15 2nd Ed	GENYL CHLORIDE	VA	EPA TO-15 2nd Ed	BROMOCHLOROMETHANE	VA
EPA TO-15 2nd Ed	BROMOFORM	VA	EPA TO-15 2nd Ed	CARBON DISULFIDE	VA
EPA TO-15 2nd Ed	CARBON TETRACHLORIDE	VA	EPA TO-15 2nd Ed	CHLOROBENZENE	VA
EPA TO-16 2nd Ed	CHLOROETHANE (ETHYL CHLORIDE)	VA	EPA TO-16 2nd Ed	CHLOROFORM	VA
EPA TO-15 2nd Ed	CIS-1,2-DICHLOROPROPENE	VA	EPA TO-15 2nd Ed	CIS-1,3-DICHLOROPROPENE	VA
EPA TO-15 2nd Ed	CYCLOHEXANE	VA	EPA TO-15 2nd Ed	DICHLORODIFLUOROMETHANE (PCDD-1)	VA
EPA TO-15 2nd Ed	ETHYL ACETATE	VA	EPA TO-15 2nd Ed	ETHYL BENZENE	VA
EPA TO-15 2nd Ed	HEPTACHLOROCYCLOPENTADIENE (L,3-HEPTACHLOROCYCLOPENTADIENE)	VA	EPA TO-15 2nd Ed	ISOPROPYL BENZENE	VA
EPA TO-15 2nd Ed	M-PYRILENE	VA	EPA TO-15 2nd Ed	METHYL BROMIDE (BROMOMETHANE)	VA
EPA TO-15 2nd Ed	METHYL CHLORIDE (CHLOROMETHANE)	VA	EPA TO-15 2nd Ed	METHYL METHACRYLATE	VA
EPA TO-15 2nd Ed	METHYL TERT-BUTYL ETHER (MTBE)	VA	EPA TO-15 2nd Ed	METHYLENE CHLORIDE (DICHLOROMETHANE)	VA
EPA TO-15 2nd Ed	N-HEPTANE	VA	EPA TO-15 2nd Ed	N-HEXANE	VA
EPA TO-15 2nd Ed	O-XYLENE	VA	EPA TO-15 2nd Ed	PROPYLENE (PROPENE)	VA
EPA TO-15 2nd Ed	STYRENE	VA	EPA TO-15 2nd Ed	TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	VA
EPA TO-15 2nd Ed	TETRAHYDROFURAN (THF)	VA	EPA TO-15 2nd Ed	TOLUENE	VA
EPA TO-15 2nd Ed	TRANS-1,2-DICHLOROETHENE	VA	EPA TO-15 2nd Ed	TRANS-1,3-DICHLOROPROPENE (TRANS-1,3-DICHLOROPROPYLENE)	VA
EPA TO-15 2nd Ed	TRICHLOROETHENE (TRICHLOROETHYLENE)	VA	EPA TO-16 2nd Ed	TRICHLOROFUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	VA
EPA TO-15 2nd Ed	VINYL ACETATE	VA	EPA TO-15 2nd Ed	VINYL BROMIDE (BROMOETHYLENE)	VA
EPA TO-15 2nd Ed	VINYL CHLORIDE (CHLOROETHYLENE)	VA	EPA TO-15 2nd Ed	XYLENE (TOTAL)	VA
EPA TO-15 2nd Ed - EXTENDED	1,1,1,2-TETRACHLOROETHANE	VA	EPA TO-15 2nd Ed - EXTENDED	2-CHLOROTOLUENE	VA
EPA TO-15 2nd Ed - EXTENDED	2-HEXANONE	VA	EPA TO-15 2nd Ed - EXTENDED	4-ETHYLTOLUENE	VA
EPA TO-15 2nd Ed - EXTENDED	METHYNE	VA	EPA TO-15 2nd Ed - EXTENDED	CHLOROBROMOMETHANE	VA
EPA TO-15 2nd Ed - EXTENDED	ETHANOL	VA	EPA TO-15 2nd Ed - EXTENDED	ISOBUTYL ALCOHOL (2-METHYL-1-PYRANOL)	VA
EPA TO-15 2nd Ed - EXTENDED	ISOOCTANE (2-METHYLHEPTANE)	VA	EPA TO-15 2nd Ed - EXTENDED	N-BUTANE	VA
EPA TO-15 2nd Ed - EXTENDED	N-NONANE	VA	EPA TO-15 2nd Ed - EXTENDED	N-PENTANE	VA
EPA TO-15 2nd Ed - EXTENDED	N-PROPYLBENZENE	VA	EPA TO-15 2nd Ed - EXTENDED	NAPHTHALENE	VA
EPA TO-15 2nd Ed - EXTENDED	TERT-BUTYL ALCOHOL (2-METHYL-2-PYRANOL)	VA			



Commonwealth of Virginia
Department of General Services
Division of Consolidated Laboratory Services



Scope of Accreditation

VCLAP Certification No. 11084

Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, VA 23237

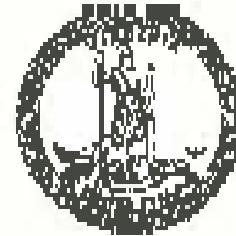
Virginia Laboratory ID: 460921
 Effective Date: September 10, 2020
 Expiration Date: June 14, 2021

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 808 3	4,4'-DDE	VA	EPA 808 3	4,4'-DDT	VA
EPA 808 3	ALDRIN	VA	EPA 808 3	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	VA
EPA 808 3	AROCLOM-1018 (PCB-1018)	VA	EPA 808 3	AROCLOM-1221 (PCB-1221)	VA
EPA 808 3	AROCLOM-1232 (PCB-1232)	VA	EPA 808 3	AROCLOM-1242 (PCB-1242)	VA
EPA 808 3	AROCLOM-1248 (PCB-1248)	VA	EPA 808 3	AROCLOM-1254 (PCB-1254)	VA
EPA 808 3	AROCLOM-1260 (PCB-1260)	VA	EPA 808 3	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	VA
EPA 808 3	CHLORPANG TOTAL	VA	EPA 808 3	DELTA-BHC	VA
EPA 808 3	DIELDRIN	VA	EPA 808 3	DELTA-BHC	VA
EPA 808 3	DIMETHOILFAN II	VA	EPA 808 3	ENDOSULFAN I	VA
EPA 808 3	ENDOSULFAN II	VA	EPA 808 3	ENDOSULFAN SULFATE	VA
EPA 808 3	ENDOSULFAN III	VA	EPA 808 3	ETHION SULPHYLIC	VA
EPA 808 3	GAMMA-BHC (GAMMA-HEXACHLOROCYCLOHEXANE)	VA	EPA 808 3	HEPTACHLOR	VA
EPA 808 3	HEPTACHLOR EPOXIDE	VA	EPA 808 3	HEPTACHLOR	VA
EPA 808 3	ISOPHTHENE (CHLORINATED) (GALATHENE)	VA	EPA 808 3	METHOXYCHLOR	VA
EPA 814	IMPHATHION	VA	EPA 814	ALPHACHLOROMETHYL (GLT-1074)	VA
EPA 814	DIAZINON	VA	EPA 814	DISULFOTON A	VA
EPA 814	PARATHION (PARATHION METHYL)	VA	EPA 814	MALATHION	VA
EPA 815	2,4-DB	VA	EPA 815	2,4-D	VA
EPA 815	DICHALEA	VA	EPA 815	DALAPON	VA
EPA 815	DINOSEB (2-DESOBUTYL-4,6-DINITROPHENOL OXIDE)	VA	EPA 815	DICHLOROPROP (DICHLOROPROP)	VA
EPA 815	MECP	VA	EPA 815	MECP	VA
EPA 822	AZINPHOS-METHYL (QUATHION)	VA	EPA 815	SEVEX (2,4,5 TP)	VA
EPA 822	DEMLTON-O	VA	EPA 822	CHLORPYRIFOS	VA
EPA 822	DIAZINON	VA	EPA 822	DISULFOTON A	VA
EPA 822	METHYL PARATHION (PARATHION METHYL)	VA	EPA 822	DISULFOTON	VA
EPA 824 1	1,1,2-TRICHLOROETHANE	VA	EPA 824 1	1,1,1-TRICHLOROCYCLOHEXANE	VA
EPA 824 1	1,1-DICHLOROETHANE	VA	EPA 824 1	1,1,2-TRICHLOROPROPANE	VA
EPA 824 1	1,2-DICHLOROBENZENE (1,2-DICHLOROBENZENE)	VA	EPA 824 1	1,1-DICHLOROETHYLENE	VA
EPA 824 1	1,2-DICHLOROPROPANE	VA	EPA 824 1	1,2-DICHLOROBENZENE (1,2-DICHLOROBENZENE)	VA
EPA 824 1	1,4-DICHLOROBENZENE (1,4-DICHLOROBENZENE)	VA	EPA 824 1	1,4-DICHLOROBENZENE (1,4-DICHLOROBENZENE)	VA
EPA 824 1	2-CHLOROETHYL VINYL ETHER	VA	EPA 824 1	2-BUTANONE (METHYL ETHYL KETONE, MEK)	VA
			EPA 824 1	2-METHYL-2-BUTANOL (2-METHYL-2-BUTYL ALCOHOL, MIBK)	VA



Commonwealth of Virginia
Department of General Services
Division of Consolidated Laboratory Services



Scope of Accreditation

VELAP Certificate No. 11084

Air Water & Soil Laboratories, Inc.
 1941 Ruymal Road
 Richmond, VA 23297

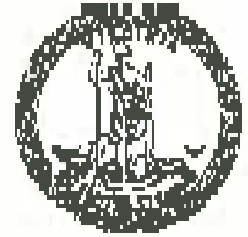
Virginia Laboratory ID: 40021
Effective Date: September 10, 2020
Expiration Date: June 14, 2021

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 8081 B	GAMMA-BHC (LINDANE) GAMMA-HCH (CYCLOHEXALINE)	VA	EPA 8081 B	GAMMA-CHLORDANE (TRANS-CHLORDANT)	VA
EPA 8081 B	DEHP (DECEHL) (PCB)	VA	EPA 8081 B	HEPTACHLOR EPOXIDE	VA
EPA 8081 B	METHOXYCHLOR	VA	EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENOL)	VA
EPA 8081 B - EXTENDED	MIREX	VA	EPA 8082 A	AROCLOL 1018 (PCB-1018)	VA
EPA 8082 A	AROCLOL 1018 (PCB-1018)	VA	EPA 8082 A	AROCLOL 1232 (PCB-1232)	VA
EPA 8082 A	AROCLOL 1242 (PCB-1242)	VA	EPA 8082 A	AROCLOL 1248 (PCB-1248)	VA
EPA 8082 A	AROCLOL 1254 (PCB-1254)	VA	EPA 8082 A	AROCLOL 1260 (PCB-1260)	VA
EPA 8082 A - EXTENDED	AROCLOL 1262 (PCB-1262)	VA	EPA 8082 A - EXTENDED	AROCLOL 1268 (PCB-1268)	VA
EPA 8151 A	2,4,5-T	VA	EPA 8151 A	2,4-D	VA
EPA 8151 A	2,4-DP	VA	EPA 8151 A	2,6-DICHLOROBENZENE (DIBZ)	VA
EPA 8151 A	4-NITROPHENOL	VA	EPA 8151 A	ACETOPHENEN	VA
EPA 8151 A	6-NITROAZON	VA	EPA 8151 A	CHLORAMBDEN	VA
EPA 8151 A	DACTHAL (DCPA)	VA	EPA 8151 A	DALAPON	VA
EPA 8151 A	DICOMBA	VA	EPA 8151 A	DICHLOROPROP (DCKH) (DPPOP)	VA
EPA 8151 A	DINOSB O-3-ETHOXY-4-6-DINITROPHENOL (DNUP)	VA	EPA 8151 A	MCPA	VA
EPA 8151 A	MCPP	VA	EPA 8151 A	PENTACHLOROPHENOL	VA
EPA 8151 A	MISOPHAM	VA	EPA 8151 A	SILVEX (2,4,5-T)	VA
EPA 8260 D	1,1,1,2-TETRACHLOROETHANE	VA	EPA 8260 D	1,1,1-TRICHLOROETHANE	VA
EPA 8260 D	1,1,2,2-TETRACHLOROETHANE	VA	EPA 8260 D	1,1,2-TRICHLORO-1,1,2-TRIFLUOROETHANE (FREGN 113)	VA
EPA 8260 D	1,1,2-TRICHLOROETHANE	VA	EPA 8260 D	1,1-DICHLOROETHANE	VA
EPA 8260 D	1,1-DICHLORODIETHYLENE	VA	EPA 8260 D	1,1-DICHLOROPROPYLENE	VA
EPA 8260 D	1,2,3-TRICHLOROPROPANE	VA	EPA 8260 D	1,2,3-TRICHLOROPROPANE	VA
EPA 8260 D	1,2,4-TRICHLOROBENZENE	VA	EPA 8260 D	1,2,4-TRIMETHYLENEBENZENE	VA
EPA 8260 D	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	VA	EPA 8260 D	1,2-DIBROMOETHANE (EDB, ETHYLENE DIIBROMIDE)	VA
EPA 8260 D	1,2-DICHLOROBENZENE (D-CB) (DCE) (DCEP)	VA	EPA 8260 D	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	VA
EPA 8260 D	1,2-DICHLOROPROPANE	VA	EPA 8260 D	1,3,5-TRIMETHYLBENZENE	VA
EPA 8260 D	1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	VA	EPA 8260 D	1,3-DICHLOROPROPANE	VA
EPA 8260 D	1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	VA	EPA 8260 D	1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	VA
EPA 8260 D	2,3-DICHLOROPROPANE	VA	EPA 8260 D	2-BUTANONE (METHYL ETHYL KETONE) (MEK)	VA
EPA 8260 D	2-CHLOROETHYL VINYL ETHER	VA	EPA 8260 D	2-CHLOROTOLUENE	VA
EPA 8260 D	2-HEXANONE	VA	EPA 8260 D	2-PICOLINE (2-METHYLPYRIDINE)	VA
EPA 8260 D	4-CHLOROTOLUENE	VA			



Commonwealth of Virginia
 Department of General Services
 Division of Environmental Laboratory Services



Scope of Accreditation

VELAP Certificate No. 11064

Air Water & Soil Laboratories, Inc.
 1941 Reymet Road
 Richmond, VA 23237

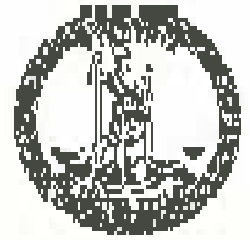
Virginia Laboratory ID: 469921
 Effective Date: September 10, 2020
 Expiration Date: June 14, 2021

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 8200 D	4-(2,4,6-TRICHLORO)PHENYL DIAZOBENZENE (P-CLTANAP)	VA	EPA 8200 D	4-METHYL-2,4,6-TRICHLOROPHENYL DIAZOBENZENE (SANTOLITE KR-20000-0000)	VA
EPA 8200 D	ACETONITRILE	VA	EPA 8200 D	ACETONITRILE	VA
EPA 8200 D	ACROLEIN (PROPINAL)	VA	EPA 8200 D	ACRYLONITRILE	VA
EPA 8200 D	ALLYL CHLORIDE (BENYL CHLORIDE)	VA	EPA 8200 D	BENZENE	VA
EPA 8200 D	BENZYL CHLORIDE	VA	EPA 8200 D	BIPHENYL	VA
EPA 8200 D	BROMOCHLOROMETHANE	VA	EPA 8200 D	BROMODICHLOROMETHANE	VA
EPA 8200 D	BROMOETHYLENE	VA	EPA 8200 D	CARBON TETRACHLORIDE	VA
EPA 8200 D	CARBON TETRACHLORIDE	VA	EPA 8200 D	CHLOROBENZENE	VA
EPA 8200 D	CHLORODIBROMOMETHANE	VA	EPA 8200 D	CHLOROETHANE (ETHYL CHLORIDE)	VA
EPA 8200 D	CHLOROPHOSPHINE	VA	EPA 8200 D	CHLOROPHOSPHINE (SANTOLITE KR-20000-0000)	VA
EPA 8200 D	CIS-1,2-DICHLOROETHYLENE	VA	EPA 8200 D	CIS-1,3-DICHLOROPROPANE	VA
EPA 8200 D	CIS-1,4-DICHLORO-2-BUTENE	VA	EPA 8200 D	CYCLOHEXANE	VA
EPA 8200 D	DIBROMOETHYLENE (DIBP)	VA	EPA 8200 D	DIBROMOETHYLENE (DIBP)	VA
EPA 8200 D	DICHLORODIFLUOROMETHANE (FRON 12)	VA	EPA 8200 D	DIBUTYL ETHER	VA
EPA 8200 D	ETHANOL	VA	EPA 8200 D	DIPHENYL ETHER	VA
EPA 8200 D	ETHYL METHACRYLATE	VA	EPA 8200 D	ETHYL METHACRYLATE	VA
EPA 8200 D	ETHYLENE	VA	EPA 8200 D	ETHYLENE OXIDE	VA
EPA 8200 D	HEXACHLOROETHYLENE (HEXACHLOROCYCLOHEXANE)	VA	EPA 8200 D	HEXACHLOROCYCLOHEXANE (HEXACHLOROCYCLOHEXANE)	VA
EPA 8200 D	ISOBUTYL ALCOHOL (SANTOLITE KR-20000-0000)	VA	EPA 8200 D	ISOPROPYL ALCOHOL (SANTOLITE KR-20000-0000)	VA
EPA 8200 D	ISOPROPYL ALCOHOL (SANTOLITE KR-20000-0000)	VA	EPA 8200 D	M-PYRENE	VA
EPA 8200 D	ISOPROPYLBENZENE	VA	EPA 8200 D	METHYL ACETATE	VA
EPA 8200 D	METHACRYLONITRILE	VA	EPA 8200 D	METHYL CHLORIDE (CHLOROMETHANE)	VA
EPA 8200 D	METHYL BROMIDE (BROMOMETHANE)	VA	EPA 8200 D	METHYL TERT-BUTYL ETHER (MTBE)	VA
EPA 8200 D	METHYL METHACRYLATE	VA	EPA 8200 D	METHYLENE CHLORIDE (DICHLOROMETHANE)	VA
EPA 8200 D	METHYLCYCLOHEXANE	VA	EPA 8200 D	N-PROPYLBENZENE	VA
EPA 8200 D	N-BUTYLBENZENE	VA	EPA 8200 D	OXYLENE	VA
EPA 8200 D	NAPHTHALENE	VA	EPA 8200 D	PENTACHLOROBENZENE	VA
EPA 8200 D	PENTACHLOROBENZENE	VA	EPA 8200 D	PENTACHLOROBENZENE	VA
EPA 8200 D	PICHLORONITRILE (ETHYL CYANIDE)	VA	EPA 8200 D	PROPYLENE GLYCOL	VA
EPA 8200 D	STYRENE	VA	EPA 8200 D	T-AMYL ETHYL ETHER (TAE)	VA
EPA 8200 D	T-AMYL METHYL ETHER (TAME)	VA	EPA 8200 D	1,4-DIMETHYL-3-OXAHEXANE	VA



Commonwealth of Virginia
 Department of General Services
 Division of Consolidated Laboratory Services



Scope of Accreditation

VCLAP Certificate No. 11084

Air Water & Soil Laboratories, Inc.
 1947 Reymet Road
 Richmond, VA 23297

Virginia Laboratory ID: 450021
 Effective Date: September 10, 2020
 Expiration Date: June 14, 2021

NON-POTABLE WATER

<u>METHOD</u>	<u>ANALYTE</u>	<u>PRIMARY</u>
SM 0210 B-2011	BIOCHEMICAL OXYGEN DEMAND (BOD)	VA
SM 0240 B-2011	CHEMICAL OXYGEN DEMAND (COD)	VA
SM 0540 C-2011	SURFACTANTS - TDS	VA

<u>METHOD</u>	<u>ANALYTE</u>	<u>PRIMARY</u>
SM 0210 B-2011	CHEMICAL OXYGEN DEMAND (COD)	VA
SM 0210 B-2011	Total Chlorine Residual (TRC)	VA
SM 0221 E + C-2008	FECAL COLIFORMS	VA

SOLID AND CHEMICAL MATERIALS

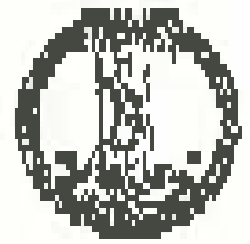
<u>METHOD</u>	<u>ANALYTE</u>	<u>PRIMARY</u>
EPA 1010 A	FLASHPOINT	VA
EPA 1312	PREP SYNTHETIC PRECIPITATION LEACHING PROCEDURE	VA
EPA 3060 A	PREP HEAVYMETAL CHROMIUM	VA
EPA 351 J REF 2	KJFIRIAL NITROGEN TOTAL (TKN)	VA
EPA 3510 A	PREP WASTE DILUTION	VA
EPA 3800 A	SUBSTRATE COLUMN CHROMATOGRAPHY OF CARBON	VA
EPA 6010 D	ALUMINUM	VA
EPA 6010 D	ARSENIC	VA
EPA 6010 D	BERYLLIUM	VA
EPA 6010 D	CADMIUM	VA
EPA 6010 D	CHROMIUM	VA
EPA 6010 D	COPPER	VA
EPA 6010 D	LEAD	VA
EPA 6010 D	MANGANESE	VA
EPA 6010 D	NICKEL	VA
EPA 6010 D	SELENIUM	VA
EPA 6010 D	SILVER	VA
EPA 6010 D	STRONTIUM	VA
EPA 6010 D	TIN	VA
EPA 6010 D	VANADIUM	VA
EPA 6020 D	ANTIMONY	VA
EPA 6020 B	BARIUM	VA
EPA 6020 D	CADMIUM	VA
EPA 6020 B	COBALT	VA
EPA 6020 D	LEAD	VA
EPA 6020 B	MOLYBDENUM	VA
EPA 6020 B	SELENIUM	VA
EPA 6020 D	THALLIUM	VA
EPA 6020 B	ZINC	VA

<u>METHOD</u>	<u>ANALYTE</u>	<u>PRIMARY</u>
EPA 1311	PREP TOXICITY CHARACTERISTIC LEACHING PROCEDURE	VA
EPA 3050 B	PREP ACID DIGESTION OF SEDIMENTS, SLURRIES, AND SOILS	VA
EPA 3501 REF 2	AMMONIA AS N	VA
EPA 3560 C	PREP ULTRASONIC EXTRACTION	VA
EPA 3560	PREP WASTE DILUTION FOR VOLATILE ORGANICS	VA
EPA 3810	PREP CLOSED-SYSTEM PIRROF AND TRAP AND EXTRACTION	VA
EPA 6010 D	ANTIMONY	VA
EPA 6010 D	BARIUM	VA
EPA 6010 D	BORON	VA
EPA 6010 D	CALCIUM	VA
EPA 6010 D	COBALT	VA
EPA 6010 D	IRON	VA
EPA 6010 D	MAGNESIUM	VA
EPA 6010 D	MOLYBDENUM	VA
EPA 6010 D	POTASSIUM	VA
EPA 6010 D	SILICATE SOD	VA
EPA 6010 D	SODIUM	VA
EPA 6010 D	THALLIUM	VA
EPA 6010 D	TITANIUM	VA
EPA 6020 D	ZINC	VA
EPA 6020 B	ARSENIC	VA
EPA 6020 B	BERYLLIUM	VA
EPA 6020 H	CHROMIUM	VA
EPA 6020 D	COPPER	VA
EPA 6020 D	MANGANESE	VA
EPA 6020 B	NICKEL	VA
EPA 6020 D	SILVER	VA
EPA 6020 D	VANADIUM	VA
EPA 7100 A	CHROMIUM VI	VA

This Scope of Accreditation must accompany the Certificate issued by Virginia DCLS with the same Certificate Number indicated above.



Republik Indonesia
 Kementerian Lingkungan Hidup dan Kehutanan
 Direktorat Jenderal Pengelolaan Sampah, Pencemaran dan Jasa Lingkungan
 Direktorat Jenderal Pengendalian Pencemaran Lingkungan



Survei Mutu Lingkungan Hidup

Survei Mutu Lingkungan Hidup

PT. SUDIRTA BROS. (PERS) Tbk.
 Jalan Pajajaran No. 20
 40132 Bandung

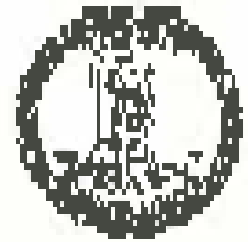
Laboratorium Mutu Lingkungan
 Jalan Jendral Sudirman No. 100
 Jakarta Selatan, 12910

DAFTAR ISI

No. Urut	Uraian	Unit	No. Urut	Uraian	Unit
01	AMBIENT AIR	01	01	AMBIENT AIR	01
02	AMBIENT AIR	02	02	AMBIENT AIR	02
03	AMBIENT AIR	03	03	AMBIENT AIR	03
04	AMBIENT AIR	04	04	AMBIENT AIR	04
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Commonwealth of Virginia
 Department of General Services
 Division of Information Technology Services



Schema of Accreditation

Virginia Laboratory ISO 15189

10000 Whitehall Road | Charlottesville, VA
 10000 Whitehall Road
 Charlottesville, VA 22904

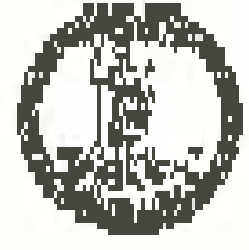
Virginia Laboratory ID: 000001
 Effective Date: September 10, 2020
 Expiration Date: July 31, 2021

SOLID AND CHEMICAL MATERIALS

METHOD NUMBER	ACCU. TEST (DESCRIPTION OF CALIBRATION)	PRECISE (Y)	METHOD CATEGORY	ANALYTE (NAME OF ANALYTE AND/OR COMPONENTS)	PRECISE (Y)
CPM001A	MOFA	NA	CPM001A	MOFA	NA
CPM001B	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001B	2,4-DICHLOROPHENOL	NA
CPM001C	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001C	2,4-DICHLOROPHENOL	NA
CPM001D	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001D	2,4-DICHLOROPHENOL	NA
CPM001E	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001E	2,4-DICHLOROPHENOL	NA
CPM001F	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001F	2,4-DICHLOROPHENOL	NA
CPM001G	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001G	2,4-DICHLOROPHENOL	NA
CPM001H	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001H	2,4-DICHLOROPHENOL	NA
CPM001I	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001I	2,4-DICHLOROPHENOL	NA
CPM001J	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001J	2,4-DICHLOROPHENOL	NA
CPM001K	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001K	2,4-DICHLOROPHENOL	NA
CPM001L	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001L	2,4-DICHLOROPHENOL	NA
CPM001M	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001M	2,4-DICHLOROPHENOL	NA
CPM001N	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001N	2,4-DICHLOROPHENOL	NA
CPM001O	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001O	2,4-DICHLOROPHENOL	NA
CPM001P	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001P	2,4-DICHLOROPHENOL	NA
CPM001Q	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001Q	2,4-DICHLOROPHENOL	NA
CPM001R	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001R	2,4-DICHLOROPHENOL	NA
CPM001S	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001S	2,4-DICHLOROPHENOL	NA
CPM001T	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001T	2,4-DICHLOROPHENOL	NA
CPM001U	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001U	2,4-DICHLOROPHENOL	NA
CPM001V	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001V	2,4-DICHLOROPHENOL	NA
CPM001W	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001W	2,4-DICHLOROPHENOL	NA
CPM001X	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001X	2,4-DICHLOROPHENOL	NA
CPM001Y	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001Y	2,4-DICHLOROPHENOL	NA
CPM001Z	CPM001A, 2,4-DICHLOROPHENOL	NA	CPM001Z	2,4-DICHLOROPHENOL	NA



Commonwealth of Virginia
 Department of General Services
 Division of Procurement Services, 6000



Supplier of Annotations

Virginia General Services Board

One Alston B. Smith Building, Room 100
 4515 Riverwood Road
 Richmond, VA 23221

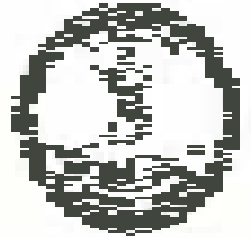
Virginia Laboratory 10, 460071
 PO Box 200000 - September 10, 2020
 6-019 of VAND - June 14, 2021

Virginia General Services Board Annotations

ITEM NO. / Contract No.	DESCRIPTION 1 + 2 FROM CONTRACT NO. 3 (4) (5) (6) (7) (8) (9)	STATUS	ITEM NO. / Contract No.	DESCRIPTION 1 + 2 FROM CONTRACT NO. (3) (4) (5)	STATUS
2019-00000	2019-00000 (2019-00000)	NA	2019-00000	2019-00000 (2019-00000)	NA
2019-00001	2019-00001 (2019-00001)	NA	2019-00001	2019-00001 (2019-00001)	NA
2019-00002	2019-00002 (2019-00002)	NA	2019-00002	2019-00002 (2019-00002)	NA
2019-00003	2019-00003 (2019-00003)	NA	2019-00003	2019-00003 (2019-00003)	NA
2019-00004	2019-00004 (2019-00004)	NA	2019-00004	2019-00004 (2019-00004)	NA
2019-00005	2019-00005 (2019-00005)	NA	2019-00005	2019-00005 (2019-00005)	NA
2019-00006	2019-00006 (2019-00006)	NA	2019-00006	2019-00006 (2019-00006)	NA
2019-00007	2019-00007 (2019-00007)	NA	2019-00007	2019-00007 (2019-00007)	NA
2019-00008	2019-00008 (2019-00008)	NA	2019-00008	2019-00008 (2019-00008)	NA
2019-00009	2019-00009 (2019-00009)	NA	2019-00009	2019-00009 (2019-00009)	NA
2019-00010	2019-00010 (2019-00010)	NA	2019-00010	2019-00010 (2019-00010)	NA
2019-00011	2019-00011 (2019-00011)	NA	2019-00011	2019-00011 (2019-00011)	NA
2019-00012	2019-00012 (2019-00012)	NA	2019-00012	2019-00012 (2019-00012)	NA
2019-00013	2019-00013 (2019-00013)	NA	2019-00013	2019-00013 (2019-00013)	NA
2019-00014	2019-00014 (2019-00014)	NA	2019-00014	2019-00014 (2019-00014)	NA
2019-00015	2019-00015 (2019-00015)	NA	2019-00015	2019-00015 (2019-00015)	NA
2019-00016	2019-00016 (2019-00016)	NA	2019-00016	2019-00016 (2019-00016)	NA
2019-00017	2019-00017 (2019-00017)	NA	2019-00017	2019-00017 (2019-00017)	NA
2019-00018	2019-00018 (2019-00018)	NA	2019-00018	2019-00018 (2019-00018)	NA
2019-00019	2019-00019 (2019-00019)	NA	2019-00019	2019-00019 (2019-00019)	NA
2019-00020	2019-00020 (2019-00020)	NA	2019-00020	2019-00020 (2019-00020)	NA
2019-00021	2019-00021 (2019-00021)	NA	2019-00021	2019-00021 (2019-00021)	NA
2019-00022	2019-00022 (2019-00022)	NA	2019-00022	2019-00022 (2019-00022)	NA
2019-00023	2019-00023 (2019-00023)	NA	2019-00023	2019-00023 (2019-00023)	NA
2019-00024	2019-00024 (2019-00024)	NA	2019-00024	2019-00024 (2019-00024)	NA
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2019-00026	2019-00026 (2019-00026)	NA	2019-00026	2019-00026 (2019-00026)	NA
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2019-00029	2019-00029 (2019-00029)	NA	2019-00029	2019-00029 (2019-00029)	NA
2019-00030	2019-00030 (2019-00030)	NA	2019-00030	2019-00030 (2019-00030)	NA
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2019-00032	2019-00032 (2019-00032)	NA	2019-00032	2019-00032 (2019-00032)	NA
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2019-00035	2019-00035 (2019-00035)	NA	2019-00035	2019-00035 (2019-00035)	NA
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2019-00046	2019-00046 (2019-00046)	NA	2019-00046	2019-00046 (2019-00046)	NA
2019-00047	2019-00047 (2019-00047)	NA	2019-00047	2019-00047 (2019-00047)	NA
2019-00048	2019-00048 (2019-00048)	NA	2019-00048	2019-00048 (2019-00048)	NA
2019-00049	2019-00049 (2019-00049)	NA	2019-00049	2019-00049 (2019-00049)	NA
2019-00050	2019-00050 (2019-00050)	NA	2019-00050	2019-00050 (2019-00050)	NA



Commonwealth of Virginia
 Department of Forensic Services
 Division of Forensic Laboratory Services



Scope of Accreditation

15247 Certificate # 134

Ju Apparel, Inc. Laboratory, Inc.
 101 Parkside Road
 Richmond, VA 23220

Virginia Laboratory Code 45407
 Effective Date: 06/01/2017
 Expiration Date: 06/30/2017

VALID AND RELEVANT TESTS

TEST CODE	TEST NAME	STATUS
FR-001	FRUIT	A
FR-002	FRUIT SEED	A
FR-003	SOFT	A
FR-004	FRUIT PRODUCE	A
FR-005	LIQUID FRUIT	A
FR-006	FRUIT JUICE	A
FR-007	FRUIT PASTE	A
FR-008	FRUIT DUFFLE	A

TEST CODE	TEST NAME	STATUS
FR-009	FRUIT PRODUCE	A
FR-010	FRUIT PRODUCE (FRUIT)	A
FR-011	FRUIT JUICE	A
FR-012	FRUIT PASTE	A
FR-013	FRUIT	A
FR-014	FRUIT PRODUCE	A