



February 17, 2023

GL2014572921.001

**Richard Doucette, Land Protection and Revitalization Program Manager**

Department of Environmental Quality  
Northern Regional Office  
13901 Crown Court  
Woodbridge, Virginia 22193

Via email: [Richard.Doucette@deq.virginia.gov](mailto:Richard.Doucette@deq.virginia.gov)

**RE: CLOSED LAUREL VALLEY CENTER SANITARY LANDFILL, PERMIT NO. 251  
2022 ANNUAL GROUNDWATER MONITORING REPORT**

Dear Mr. Doucette

On behalf of Culpeper County, WSP USA Inc is submitting an electronic copy of the *2022 Annual Groundwater Monitoring Report* for the closed Laurel Valley Center Sanitary Landfill. This document fulfills the requirements of 9VAC2081250.E.2.a of the Virginia Solid Waste Management Regulations.

If you have any questions, please contact the undersigned at 804-934-1782. [Click here and type closing]

**WSP USA Inc.**

Dean Thomas  
*Assistant Consultant, Geologist*

Peter Nash P.G.  
*Technical Principal, Hydrogeologist*

DT/PWN

CC: [Click here and type list of CCs]

Attachments: 2022 Annual Groundwater Monitoring Report *Closed Laurel Valley Center Sanitary Landfill* Permit No. 251

[https://golderassociates.sharepoint.com/sites/130478/project files/6 deliverables/annual groundwater reports/2022 agwmr/2022 agwmr cover letter.docx](https://golderassociates.sharepoint.com/sites/130478/project%20files/6%20deliverables/annual%20groundwater%20reports/2022%20agwmr/2022%20agwmr%20cover%20letter.docx)



**REPORT**

**2022 Annual Groundwater Monitoring Report**

*Closed Laurel Valley Center Sanitary Landfill, Permit No. 251*

Submitted to:

**Virginia Department of Environmental Quality**

Northern Regional Office  
13901 Crown Court  
Woodbridge, VA 22193

Submitted by:

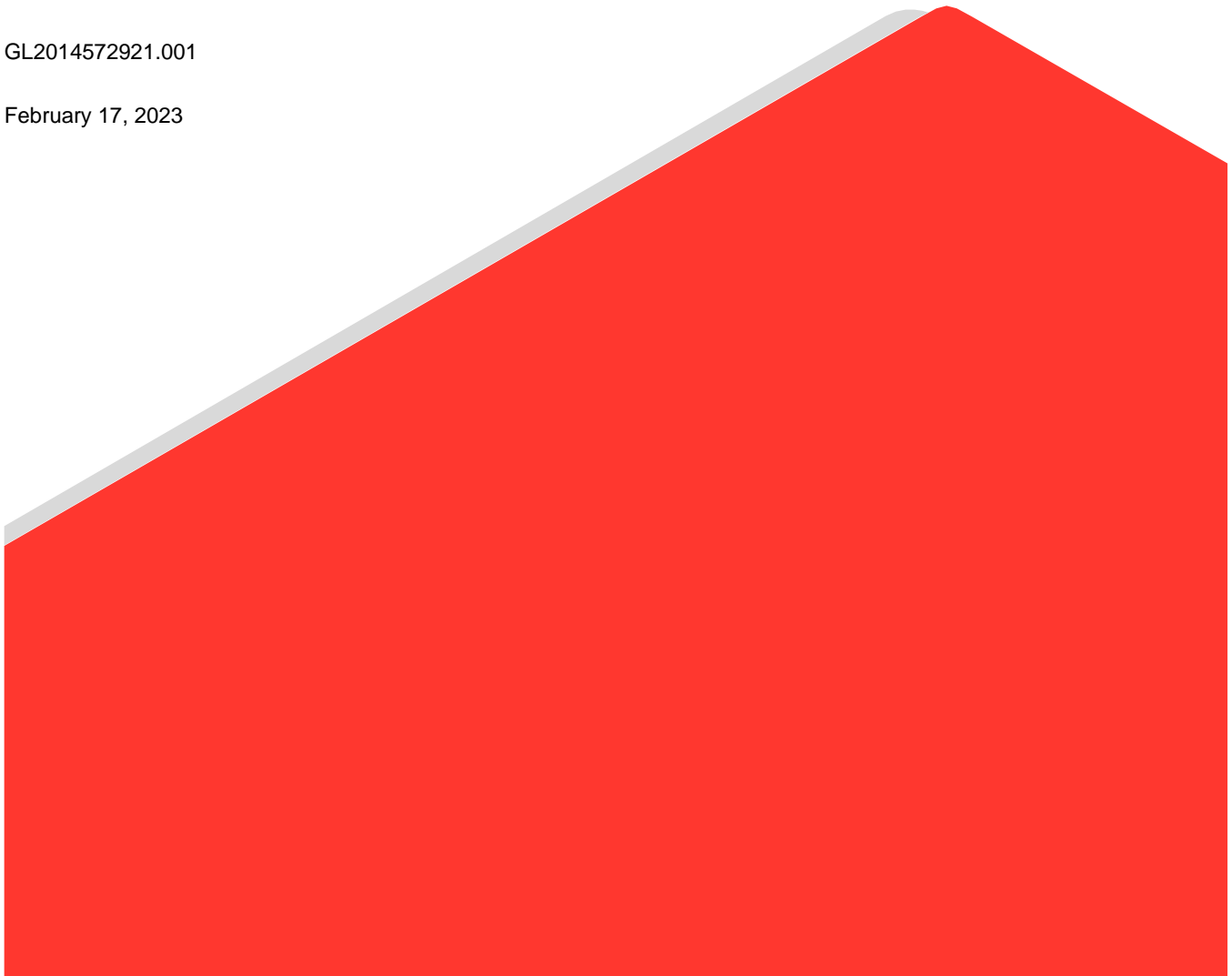
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## EXECUTIVE SUMMARY

The Virginia Solid Waste Management Regulations (VSWMR) became effective in December 1988 and were most recently amended in February 2019 (effective date of March 6, 2019). These regulations (9VAC20-81-250.E.2.a) require owners/operators of municipal solid waste management facilities to submit an Annual Report to the Virginia Department of Environmental Quality (DEQ) within 120 days of receipt of the laboratory certificates of analysis for the last compliance event of the year. This report has been prepared by WSP Golder Inc. (Golder) in compliance with the VSWMR and on behalf of Culpeper County for the closed Laurel Valley Center Sanitary Landfill (Permit No. 251). This report presents results from both the first and second semi-annual 2022 events conducted in March, October 2022.

An Assessment Monitoring Program is maintained at the closed Laurel Valley Center Sanitary Landfill in accordance with 9VAC20-81-250.B.3 of the VSWMR. The groundwater compliance monitoring network consists of one background well (MW-20) and four (4) downgradient compliance wells (MW-1B, MW-2B, MW-3A, and MW-4). The monitoring network is sampled on a semi-annual basis. Consistent with 9VAC20-81-250.E.2.a.(1)(e) of the VSWMR, Golder believes that the monitoring well network continues to meet the requirements of 9VAC20-81-250.A.3 of the VSWMR.

Culpeper County began monitoring groundwater at the landfill in July 1993 under the Detection Monitoring Program, with an Assessment Monitoring Program initiated in December 1994. Based on the results from the Assessment Monitoring Program the DEQ amended the original 1978 Facility permit on November 18, 1998, to include Groundwater Protection Standards (GPS), which included a variance for Alternate Concentration Limits (ACLs). In May 1999, the GPS for vinyl chloride was exceeded at three (3) downgradient monitoring wells.

A Nature and Extent Study (NES) and Assessment of Corrective Measures (ACM) were completed for the Facility, consistent with the VSWMR. In coordination with the DEQ a Corrective Action Plan was submitted to the DEQ and on November 5, 2008, the DEQ issued a Correction Action Permit for the Facility. The first semi-annual corrective action monitoring event occurred during the second semi-annual 2008 groundwater monitoring event. Corrective action monitoring results have since been reported to DEQ in the Corrective Action Status Evaluations (CASE) dated November 3, 2011, November 5, 2014, November 3, 2017, and November 5, 2020.

Analytical results from the two (2) compliance and corrective action sampling events in 2022 were compared to the Facility's GPS using a value-to-standard comparison method in accordance with the Facility's permit. Results from the 2022 sampling events showed that 1,1-Dichloroethane was detected at multiple compliance or corrective action wells (MW-1B, MW-1C, MW-1F, MW-1H, and MW-2B) at concentrations that exceeded its GPS using a value-to-standard comparison method. Cobalt was found at multiple compliance or corrective action wells (CLF-1, MW-1C, MW-1D, MW-4, MW-3, MW-3A, MW-5, and MW-X1) at concentrations that exceeded its GPS using a



value-to-standard comparison method. Vinyl Chloride was also detected at multiple wells (MW-1C, MW-1D, MW-1E and MW-1F) exceeding its GPS. Naphthalene was found in MW-4 and MW-2B at a concentration that exceeded its GPS using a value-to-standard comparison method. However, naphthalene was detected in the associated field blank, therefore, the reported naphthalene detections at MW-4 and MW-2B are considered estimated values and have been qualified biased high (J+) and are not considered exceedances at this time. These findings are consistent with previous monitoring results and no additional actions other than continued implementation of the corrective action program are required. The exceedances were reported to the DEQ in letters dated April 13, 2022, December 5, 2022.

Culpeper County will continue to maintain an Assessment Monitoring Program, as defined by 9VAC20-81-250.B.3 based on the groundwater monitoring results for 2022. Additionally, the County will continue to implement routine compliance and corrective action program monitoring activities in accordance with 9VAC20-81-250 and 260. The adequacy of the Facility's groundwater monitoring network was reviewed after each of the 2022 sampling events, and it is the opinion of Golder that the network complies with the VSWMR; therefore, no changes to the monitoring network are recommended.

# Table of Contents

<b>1.0 INTRODUCTION</b>	<b>1</b>
<b>2.0 SITE INFORMATION</b>	<b>1</b>
2.1 Site Topographic Conditions	1
2.2 Surrounding Land Use	1
2.3 Geology	1
2.4 Groundwater Monitoring Program	2
2.5 Corrective Action Program	3
2.6 Groundwater Monitoring Network	3
2.6.1 Compliance Network	3
2.6.2 Corrective Action Program	3
2.7 Groundwater Monitoring Program Variances	3
2.8 House Bill 2471 Wetland Requirement	4
<b>3.0 2022 FIELD SAMPLING ACTIVITIES</b>	<b>4</b>
3.1 First Semi-Annual 2022 Compliance Monitoring Event	4
3.2 Second Semi-Annual 2022 Compliance Monitoring Event	5
<b>4.0 LABORATORY ANALYSES</b>	<b>5</b>
4.1 First Semi-Annual 2022 Compliance Monitoring Event	5
4.2 Second Semi-Annual 2022 Compliance Monitoring Event	5
<b>5.0 DATA REVIEW</b>	<b>6</b>
5.1 First Semi-Annual 2022 Compliance Monitoring Event	6
5.2 Second Semi-Annual 2022 Compliance Monitoring Event	6
<b>6.0 GROUNDWATER PROTECTION STANDARDS</b>	<b>6</b>
6.1 First Semi-Annual 2022 Compliance Monitoring Event	7
6.2 Second Semi-Annual 2022 Compliance Monitoring Event	7
<b>7.0 CORRECTIVE ACTION PROGRAM</b>	<b>7</b>
<b>8.0 GROUNDWATER FLOW EVALUATION</b>	<b>8</b>
<b>9.0 CONCLUSIONS AND RECOMMENDATIONS</b>	<b>9</b>
<b>10.0 SIGNATURE</b>	<b>10</b>
<b>11.0 REFERENCES</b>	<b>11</b>

**TABLES**

Table 1 Summary of Historical Static Water Level Data

Table 2 Summary of Groundwater Constituents

**DRAWINGS**

Drawing 1 Site Location Map

Drawing 2 Groundwater Surface Contour Map, October 18, 2022

**APPENDICES**

Appendix I Annual Report Submission Checklist (Form ARSC-01)

Appendix II Field Data Sheets—1<sup>st</sup> and 2<sup>nd</sup> Semi-annual 2022 Monitoring Events

Appendix III Certificates-of-Analysis and Chain-of-Custody Forms

1<sup>st</sup> Semi-annual 2022 Monitoring Events (Enthalpy Analytical packages 22C1547 and 22C1525)

2<sup>nd</sup> Semi-annual 2022 Monitoring Events (Enthalpy Analytical packages 22J1082, 22J1391, 22J1067, 22J1069, 22J1064, 22J1065 and 22J1066)

Appendix IV Laboratory Data Review - 1<sup>st</sup> & 2<sup>nd</sup> Semi-annual 2022 Monitoring Events

## 1.0 INTRODUCTION

The Virginia Solid Waste Management Regulations (VSWMR) came into effect in December 1988 and were most recently amended in February 2019 (effective date of March 6, 2019; VWMB, 2019). Owners/operators of municipal solid waste management facilities are required to submit an annual report (Report) to the Director of the Virginia Department of Environmental Quality (DEQ) within 120 days from receipt of the laboratory certificates of analysis consistent with 9VAC20-81-250.E.2.a of the VSWMR for the last compliance event of the calendar year. This Report has been prepared by WSP Golder Inc. (Golder) on behalf of Culpeper County for the closed Laurel Valley Center Sanitary Landfill (Facility), Permit No. 251, and is being submitted with the completed form ARSC-01 (presented in Appendix I) to meet the annual reporting regulatory requirement. This report presents the groundwater monitoring results from both the first semi-annual 2022 event conducted in March, and the second semi-annual 2022 events conducted in October 2022.

## 2.0 SITE INFORMATION

The unlined, closed Facility is owned by Culpeper County and maintained under Permit Number 251, issued by a predecessor to the DEQ on June 26, 1978. Waste disposal was primarily by the trench-fill method with above ground lifts placed over the trenches. The Facility was considered closed in November 1998.

A site location map is presented as Drawing 1. The Facility is located in Culpeper County, Virginia, approximately 4 miles northwest of downtown Culpeper off Rt. 522.

The Facility layout, including monitoring well locations, is presented as Drawing 2. The landfill property consists of approximately 274 acres of rolling topography, of which 17 acres were used for landfill operations.

### 2.1 Site Topographic Conditions

Topographic elevations at the site range from approximately 400 feet above mean sea level (ft AMSL) in the northern corner of the landfill to 600 ft AMSL in the western portion of the property (Drawing 1). Two northerly draining intermittent streams are located on the landfill property.

### 2.2 Surrounding Land Use

Land use in the vicinity of the landfill is generally rural residential, with some isolated developed areas. Most of the property to the north, east, southeast, and southwest is owned by Culpeper County. The properties to the northwest and near the entrance are privately owned rural residential properties. A municipal solid waste transfer station (operated by Republic Services and owned by Culpeper County) and the Paul Bates Raceway are located within the larger landfill property footprint.

### 2.3 Geology

The Facility is in the eastern portion of the Blue Ridge physiographic province and is underlain by metamorphic bedrock. The geology of the waste-receiving portion of the landfill is mapped as the Fauquier Formation (Arkosic metasandstone and metasedimentary rock) (VDMR, 1993). Other areas of the landfill property footprint are

mapped as the Lynchburg Group (metagraywacke, porphyroblastic biotite–plagioclase augen gneiss, and layered biotite granulite and gneiss) (VDMR, 1993).

The uppermost aquifer beneath the Facility is found in the saprolite developed in the metamorphic bedrock. The saprolite is derived from *in situ* weathered bedrock and ranges from highly weathered saprolite with no residual rock fabric to partially weathered bedrock. The saprolite transitions to weathered rock and relatively unweathered fractured bedrock. The uppermost aquifer at the Facility transcends from the saprolite, through the weathered bedrock and into the lower fractured bedrock with no known confining units. Groundwater flow is vertically downward in upland areas and vertically upward along the stream bottom areas, such that artesian conditions are locally present at the Facility.

Residential properties in the vicinity of the landfill have historically obtained their potable water from the fractured bedrock aquifer beneath the study area. It is noted that the County will be expanding the municipal water supply to the study area and it is expected that many of the rural residential properties will be connected to the water system upon construction.

## 2.4 Groundwater Monitoring Program

Culpeper County began monitoring groundwater at the landfill in July 1993 under the Detection Monitoring Program and under the Assessment Monitoring Program in December 1994 (JEI, 2018). The original compliance monitoring wells for the Facility were installed in 1992. The DEQ has amended the Facility's original 1978 permit six (6) times, initially on November 23, 1998, to incorporate Groundwater Protection Standards (GPS). This amendment included a variance approval for use of Alternate Concentration Limits (ACLs). The variance approval has since been nullified by amendment of the VSWMR, which removed the variance requirement for use of ACLs.

The permit was amended a second (2) time on December 4, 2001, to incorporate the removal of monitoring well MW-4A from the groundwater monitoring network. On June 5, 2008, the DEQ amended (3) the Facility's permit to incorporate the Corrective Action Plan (CAP) and Corrective Action Monitoring Plan (CAMP) into the Corrective Action Module XIV. The Facility permit was amended (4) on October 14, 2008, to incorporate a revised Landfill Gas Management Plan, a revised Landfill Gas Remediation Plan, and a revised Closure Plan including details of the groundwater corrective action program. A minor amendment (5) on November 5, 2008, incorporated a modification to the corrective action groundwater monitoring network for the installation of monitoring wells MW-1C, MW-X2D, CLF-E3D, CLF-E4, and CLF-12AR and the conversion of open borehole CLF-15A into a cased monitoring well. The most recent amendment (6) to the Facility permit was approved on June 3, 2009, and included adding chloroethane to the corrective action constituents of concern list.

On February 6, 2014, the DEQ approved a reporting reduction allowance variance for the Facility consistent with 9VAC20-81-720.A of the VSWMR. This report presents the groundwater monitoring results from both the first semi-annual 2022 events in March 2022, and the second semi-annual 2022 events conducted in October 2022 in accordance with this change.

A revised CAMP was submitted for approval on December 7, 2022, to reflect a modified monitoring network for plumes CLFP-2 and CLFP-3 and the implementation of interim measures, including enhanced bioremediation remedies (EBR) associated with CLFP-2. Approval of the revised CAMP is pending.

## **2.5 Corrective Action Program**

In May 1999 the GPS for vinyl chloride was exceeded at three (3) downgradient monitoring wells. A Nature and Extent Study (NES) and an Assessment of Corrective Measures (ACM) were completed for the Facility, consistent with the VSWMR. In coordination with the DEQ, a CAP was submitted to the DEQ and on June 5, 2008, the DEQ issued a Correction Action Permit Module (Module XIV) for the Facility. The first semi-annual corrective action monitoring event occurred during the second semi-annual 2008 groundwater monitoring event. The Corrective Action Permit Module has since been amended, as mentioned in the previous section (most recently on November 5, 2008). Consistent with these permit requirements, the corrective action monitoring results have been reported to the DEQ every three (3) years in the Corrective Action Status Evaluations (CASE) dated November 3, 2011, November 5, 2014, November 3, 2017, and November 5, 2020.

## **2.6 Groundwater Monitoring Network**

Culpeper County maintains two (2) groundwater monitoring networks at the Facility as follows.

### **2.6.1 Compliance Network**

The Facility's groundwater monitoring network consists of four (4) downgradient monitoring wells (MW-1B, MW-2B, MW-3A, MW-4) and one (1) background well (MW-20). The compliance well locations are shown on Drawing 2.

### **2.6.2 Corrective Action Program**

Culpeper County currently monitors 18 additional wells associated with three (3) contaminant plumes as part of the corrective action permit. Wells associated with Plume CLF-4 were decommissioned following the DEQ's September 28, 2012 approval to cease monitoring at this plume in response to the 2011 CASE. Plume CLF-1 is monitored by presumptive remedy (PR) performance wells MW-4, MW-6, MW-X1, and CLF-1. Plume CLF-2 is monitored by PR performance wells MW-1B, MW-1C, MW-1D, MW-1E, MW-1F, MW-1G, MW-1H, MW-1I, MW-2B, MW-3, MW-3A, and MW-5. Plume CLF-3 is monitored by natural attenuation performance wells MW-X2, CLF-15A, and PZ-4E, and sentinel wells MW-X2D, CLF-S1, and CLF-S3. The corrective action well locations are shown on Drawing 2.

## **2.7 Groundwater Monitoring Program Variances**

The groundwater monitoring program at the Laurel Valley Center Sanitary Landfill is operated with one (1) active variance to the requirements in the VSWMR. On February 6, 2014, the DEQ approved a variance allowing the suspension of reporting for semi-annual groundwater monitoring events at the Facility during the corrective action program consistent with provisions in 9VAC20-81-720.A of the VSWMR. The Facility operator is still

required to submit statistically significant detection/Table 3.1 constituent detection/GPS exceedance notifications pursuant to the VSWMR requirements following the semi-annual sampling events.

As discussed previously, the DEQ previously approved a variance to the VSWMR for the use of ACLs in 1998. However, this variance was nullified with an amendment of the VSWMR which eliminated the requirement for a variance to establish and modify site-specific ACLs provided that the Facility operator is using the DEQ established ACLs.

## **2.8 House Bill 2471 Wetland Requirement**

The requirements of House Bill 2471 (quarterly monitoring based on wetland proximity) as codified in 9VAC20-81-B.1.e of the VSWMR do not apply to this Facility since the Laurel Valley Center Sanitary Landfill is closed.

## **3.0 2022 FIELD SAMPLING ACTIVITIES**

Two (2) compliance groundwater monitoring events were conducted at the Facility in 2022 (March and October) with one (1) verification/resampling events conducted in October 2022. A summary of the 2022 field activities is presented in the following sections.

### **3.1 First Semi-Annual 2022 Compliance Monitoring Event**

Golder personnel visited the Facility for the 1<sup>st</sup> semi-annual event on March 28-31, 2022 to purge and sample the monitoring wells in the groundwater compliance and corrective action monitoring networks consistent with 9VAC20-81-250.E.2.b.(1)(c) of the VSWMR. Compliance wells MW-1B, MW-2B, MW-3A, MW-4, and MW-20 were sampled during this event. Corrective action wells CLF-1, MW-1C, MW-1D, MW-1E, MW-1F, MW-1G, MW-1H, MW-1I, MW-3, MW-5, CLF-15A, CLF-S3, MW-6, MW-X1, MW-X2, PZ-4E, and CLF-S1 were also sampled during this event. MW-X2D was not sampled because the well was dry at the time of sampling.

The monitoring wells were then purged using micropurge sampling procedures with dedicated groundwater pumps. Prior to purging, the depth to static water in each well was measured with an electronic water level indicator, accurate to 0.01 foot. Depth-to-water measurements (and corresponding groundwater elevations) are summarized in Table 1 along with historical depth-to-water measurements and groundwater elevations.

Field measurements were recorded at each well for pH, specific conductance, temperature, turbidity, oxidation reduction potential (ORP), and dissolved oxygen (DO) using calibrated water quality meters during purging and immediately before and after sampling. The groundwater samples were collected in pre-preserved, laboratory-supplied sample containers and then placed in a cooler on ice under chain-of-custody control and delivered to Air, Water, and Soils Laboratories, Inc., a Virginia Environmental Laboratory Accreditation Program (VELAP)-accredited laboratory, in Richmond, Virginia. The samples were received at the laboratory on March 30, 2022, in good condition and properly preserved. Field datasheets for the first semi-annual March 2022 sampling event are presented in Appendix II.

## 3.2 Second Semi-Annual 2022 Compliance Monitoring Event

For the 2<sup>nd</sup> semi-annual event Golder personnel visited the Facility on October 18 - 20, 2022, to purge and sample the compliance wells (MW-1B, MW-2B, MW-3A, MW-4, and MW-20) and corrective action wells (MW-6, MW-X1, CLF-1, MW-1C, MW-1D, MW-1E, MW-1F, MW-1G, MW-1H, MW-1I, MW-3, MW-5, MW-X2, CLF-15A, CLF-S3, PZ-4E, MW-X2D, and CLF-S1) in the Facility's monitoring network consistent with 9VAC20-81-250.E.2.b.(1)(c) of the VSWMR.

The monitoring wells were purged using micropurge sampling procedures with dedicated groundwater pumps. Prior to purging, the depth to static water in each well was measured with an electronic water level indicator, accurate to 0.01 foot. Depth-to-water measurements (and corresponding groundwater elevations) are summarized in Table 1 along with historical depth-to-water measurements and groundwater elevations.

Field measurements were recorded at each well for pH, specific conductance, temperature, DO, ORP, and turbidity during the purge and prior to and immediately after sampling using calibrated water quality meters. Groundwater samples were collected in pre-preserved, laboratory-supplied sample containers and placed in coolers on ice under chain of custody control and delivered to Enthalpy Analytical (formerly AWS), on October 20, 2022, for analysis. Field datasheets for the 2<sup>nd</sup> semi-annual October 2022 event are presented in Appendix II.

As part of the semi-annual event, monitoring wells MW-1B, MW-2B, MW-3A, MW-4 and MW-20 were resampled on October 27, 2022, for organochlorine herbicides due to a laboratory sample preparation error. Monitoring well MW-20 was also resampled on October 27, 2022, for semi-volatile organic compounds and pesticides as an insufficient sample volume for analysis was collected during the initial event. Available field datasheets for the 2<sup>nd</sup> semi-annual October 27, 2022, verification sampling event are presented in Appendix II.

## 4.0 LABORATORY ANALYSES

Laboratory analyses completed as part of the 2022 groundwater monitoring events are discussed in the following sections. Results from the 1<sup>st</sup> and 2<sup>nd</sup> semi-annual 2022 compliance monitoring events are summarized in Table 2 (attached). The laboratory certificates of analysis and chain of custody forms for each event are presented in Appendix III of this report.

### 4.1 First Semi-Annual 2022 Compliance Monitoring Event

The March 2022 groundwater compliance samples were analyzed for the constituents listed in the VSWMR Table 3.1 Column B. The groundwater samples collected from the corrective action monitoring wells were analyzed for the permit-required constituents and parameters.

### 4.2 Second Semi-Annual 2022 Compliance Monitoring Event

The October 2022 groundwater compliance samples were analyzed for VSWMR Table 3.1 Column A constituents, plus the following Column B constituents: dichlorodifluoromethane, naphthalene, sulfide, mercury,



tin, bis(2-ethylhexyl)phthalate, 2,4,5-trichlorophenoxyacetic acid, 4-aminobiphenyl, dibenz(a,h)anthracene, di-n-butylphthalate, indeno(1,2,3-cd)pyrene, diethyl phthalate, endosulfan sulfate, gamma-Chlordane, and isobutyl alcohol. The groundwater samples from corrective action monitoring wells were analyzed for the permit-required constituents and parameters.

## 5.0 DATA REVIEW

Golder performed a Quality Assurance (QA) review of the laboratory Quality Control (QC) data received for the first and second semi-annual monitoring events conducted in 2022. Our QA review is performed in accordance with procedures outlined in the following U.S. Environmental Protection Agency (EPA) guidance documents:

- *National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017a;*
- *National Functional Guidelines for Organic Superfund Methods Data Review, January 2017b;*

The data reviews performed by Golder for the 2022 monitoring events are discussed in the following sections.

### 5.1 First Semi-Annual 2022 Compliance Monitoring Event

Field and laboratory QA/QC data were reviewed in accordance with EPA protocol. Laboratory-prepared trip blanks accompanied the volatile sample containers for both the compliance and corrective action monitoring wells to and from the laboratory. The compliance trip blanks were analyzed for VSWMR Table 3.1, Column B VOCs, and the corrective action trip blank was analyzed for 1,1-dichloroethane, naphthalene, trichloroethene, vinyl chloride, chloroethane, and 1,2-dichloroethane. The data review results are summarized in Appendix IV. As presented, the results meet the data quality objectives for the project and are suitable for use with the compliance programs.

### 5.2 Second Semi-Annual 2022 Compliance Monitoring Event

Field and laboratory QA/QC data were reviewed in accordance with EPA protocol. Laboratory-prepared trip blanks accompanied the volatile sample containers for both the compliance and corrective action monitoring wells to and from the laboratory. The compliance trip blank was analyzed for VSWMR Table 3.1 Column A VOCs, plus dichlorodifluoromethane, isobutyl alcohol, and naphthalene. The corrective action trip blank was analyzed for 1,1-dichloroethane, trichloroethene, and vinyl chloride. Mercury was reported during this event in the field blank. Based on EPA data qualification guidance, any detections greater than five times the amount found in the blank may be blank qualified. There were no exceeding detections of mercury, therefore no further action was required. The results from the data review are summarized in Appendix IV. As presented, the results meet the data quality objectives for the project and are suitable for use with the compliance programs.

## 6.0 GROUNDWATER PROTECTION STANDARDS

The analytical results from the two (2) semi-annual sampling events conducted in 2022 were evaluated against site specific GPS. The results of these evaluations were previously reported to the DEQ and are summarized in the following sections.

## 6.1 First Semi-Annual 2022 Compliance Monitoring Event

As presented in the April 13, 2022, GPS exceedance notification letter (GAI, 2022a) to the DEQ, the following GPS exceedances were confirmed for the 1<sup>st</sup> semi-annual 2022 sampling event.

- Cobalt: MW-1C, MW-1D, MW-3, MW-6, MW-X1, MW-4, CLF-1
- 1,1-Dichloroethane: MW-1B, MW-1C, MW-1F, MW-1H, MW-2B
- Vinyl Chloride: MW-1C, MW-1D, MW-1E, MW-1F

Due to a naphthalene detection in the associated field blank, the reported naphthalene detections at MW-4 and MW-2B are considered estimated values and have been qualified biased high (J+) and therefore not considered exceedances at this time. The nature and extent of these constituents has already been addressed and the constituents are included in the Facility's Corrective Action Program; therefore, no additional actions were required for these GPS exceedances.

## 6.2 Second Semi-Annual 2022 Compliance Monitoring Event

As presented in the December 5, 2022, GPS exceedance notification letter (GAI, 2022b). As part of the semi-annual event, monitoring wells MW-1B, MW-2B, MW-3A, MW-4 and MW-20 were resampled on October 27, 2022, for organochlorine herbicides due to a laboratory sample preparation error. Monitoring well MW-20 was also resampled on October 27, 2022, for semi-volatile organic compounds and pesticides as an insufficient sample volume for analysis was collected during the initial event.

- Cobalt: MW-1C, MW-1D, MW-3A, MW-5, MW-6, MW-X1, CLF-1
- 1,1-Dichloroethane: MW-1B, MW-1C, MW-1F, MW-2B
- Vinyl Chloride: MW-1C, MW-1F

The nature and extent of these constituents has already been addressed and the constituents are included in the Facility's Corrective Action Program; therefore, no additional actions were required for these GPS exceedances.

## 7.0 CORRECTIVE ACTION PROGRAM

As discussed herein, a NES and an ACM were previously completed for the Facility in response to volatile organic compound detections in downgradient compliance wells, consistent with the VSWMR. A Corrective Action Plan was subsequently submitted to and in coordination with the DEQ. The DEQ amended the Facility's permit to include a Correction Action Permit Module on June 5, 2008 (and updated on November 5, 2008). The groundwater Corrective Action Program was initiated at the Facility in the 2<sup>nd</sup> semi-annual 2008 period.

As previously stated, 18 wells are currently monitored as part of the Facility's Corrective Action Program. Plume CLF-1 is monitored by PR performance wells MW-6, MW-X1, and CLF-1. Plume CLF-2 is monitored by PR performance wells MW-1C, MW-1D, MW-1E, MW-1F, MW-1G, MW-1H, MW-1I, MW-3, and MW-5. Plume

CLF-3 is monitored by natural attenuation performance wells MW-X2, CLF-15A, and PZ-4E, and sentinel wells MW-X2D, CLF-S1, and CLF-S3.

Monitoring results from the semi-annual corrective action monitoring events are reported to the DEQ with Corrective Action Status Evaluation (CASE) Reports. The most recent CASE Report for the Facility was submitted on November 5, 2020. The next CASE report is due to the DEQ in November 2023.

## 8.0 GROUNDWATER FLOW EVALUATION

Historical static water level data for the Facility are summarized in Table 1. The groundwater surface contour overlay presented on Drawing 2 was prepared using static water level data measured on October 18, 2022. The data indicate that the general groundwater flow direction remains consistent with previous monitoring events (towards the north). Based on this evaluation of the groundwater flow direction, the groundwater monitoring network continues to adequately monitor the uppermost aquifer in accordance with the provisions in 9VAC20-81-250.A.3.

The average groundwater flow rate for the Facility was calculated as illustrated below, using the idealized groundwater flow line shown on Drawing 2, which runs from the western side of the landfill to the northern side of the landfill.

The average hydraulic gradient ( $i$ ) beneath the landfill is calculated to be 4.6E-02 along the groundwater flow line on Drawing 2, using the following equation:

$$i = \frac{h_L}{L} = \frac{(590 - 480)}{2,396} = 4.6E-02$$

Where:  
 $i$  = hydraulic gradient (unitless)  
 $h_L$  = head loss (elevation difference in feet)  
 $L$  = length (horizontal distance in feet)

Porosity for the uppermost aquifer beneath the Facility is estimated to be 35% ( $\theta = 0.35$ ), and the hydraulic conductivity,  $k$ , for the site is 1.29E-05 foot per second [ft/s; JEI, 2019].

The groundwater flow rate was calculated using the following formula:

$$V \left( \frac{ft}{s} \right) = \frac{k \left( \frac{ft}{s} \right) * i}{\theta} = \frac{\left( 1.29E-05 \frac{ft}{s} * 0.046 \right)}{0.35} = 1.7E-06 \frac{ft}{s}$$

Where:  
 $k$  = hydraulic conductivity (ft/s)  
 $i$  = hydraulic gradient (unitless)  
 $\theta$  = assumed porosity (unitless)

Using conversion factors to express the groundwater flow rate in feet per day (ft/day):

$$v \left( \frac{\text{ft}}{\text{y}} \right) = \left( 1.7\text{E-}06 \frac{\text{ft}}{\text{s}} \right) * \left( 86,400 \frac{\text{s}}{\text{d}} \right) * (365 \text{ d}) = 53.6 \frac{\text{ft}}{\text{y}}$$

The estimated average groundwater flow rate beneath the Facility is approximately 53.6 feet per year, which is consistent with previous estimates. However, the groundwater velocity at this Facility is likely variable due to changes in the hydraulic gradient as groundwater flow in the uppermost aquifer beneath the Facility converges on the receiving stream systems that border the waste management unit to the east. Detected solid waste constituents are assumed to be soluble with water for the purpose of estimating the rate of transport for solid waste constituents in the groundwater at this Facility; therefore, the rate of transport is conservatively estimated to be the velocity of the groundwater.

In summary, Golder concludes that the groundwater monitoring network continues to adequately monitor the uppermost aquifer beneath the Facility in accordance with the provisions of 9VAC20-81-250.A.3 based on the above analysis, the groundwater surface contours shown on Drawing 2, and the analytical data from groundwater samples. No changes to the groundwater monitoring network are recommended at this time.

## 9.0 CONCLUSIONS AND RECOMMENDATIONS

Golder evaluated the compliance monitoring network for the Facility, consistent with the requirements in the VSWMR, to ensure that it can detect a release from the Facility. The groundwater monitoring network continues to adequately monitor groundwater quality in the uppermost aquifer beneath the waste disposal area based on this evaluation and the hydrogeologic and analytical data presented herein. It is the opinion of Golder that the network complies with the requirements in 9VAC20-81-250.A.3 of the VSWMR. Consequently, no changes to the compliance monitoring network are recommended at this time.

Based on the 2022 sampling and analysis results, there were confirmed GPS exceedances in 2022 as follows:

- Cobalt: MW-1C, MW-1D, MW-3, MW-6, MW-X1, MW-4, CLF-1
- 1,1-Dichloroethane: MW-1B, MW-1C, MW-1F, MW-1H, MW-2B
- Vinyl Chloride: MW-1C, MW-1D, MW-1E, MW-1F

The nature and extent of these constituents have already been addressed and the constituents are included in the Facility Corrective Action Program; therefore, no additional actions are required at this time.

Based on the results presented herein, Culpeper County will continue to maintain an Assessment Monitoring Program at the closed Laurel Valley Center Sanitary Landfill (Permit No. 251) in accordance with the groundwater monitoring requirements of the VSWMR (9VAC20-81-250.B.3) and the Facility's solid waste permit. Additionally, the County will continue to implement corrective action monitoring activities in accordance with 9VAC20-81-260 of the VSWMR and the Facility's solid waste permit.

The compliance and corrective action monitoring events for calendar year 2023 are tentatively scheduled for April and October 2023.

## 10.0 SIGNATURE

This Report has been prepared on behalf of Culpeper County, Virginia, for the closed Laurel Valley Center Sanitary Landfill, Permit No. 251 to satisfy the reporting requirements specified in 9VAC20-81-250.E.2.b of the VSWMR. This document was prepared by qualified groundwater scientists and engineers who have received baccalaureate and/or post-graduate degrees in the natural sciences or engineering and who have sufficient training and experience in groundwater hydrology, engineering, statistical evaluations, and related fields as demonstrated by state professional registrations and completion of an accredited university program that enables sound professional judgments consistent with the industry standard of care for groundwater monitoring, contaminant fate and transport, environmental corrective actions, and cost estimate development.

WSP USA Inc.



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Peter Nash  
*Technical Principal, Hydrogeologist*

## 11.0 REFERENCES

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- Joyce Engineering, Inc. (JEI) 2018. Corrective Action Site Evaluation Report. Laurel Valley Center Sanitary Landfill. November 3.
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- United States Environmental Protection Agency (USEPA). 2017a. National Functional Guidelines for Inorganic Superfund Methods Data Review. January.
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- Virginia Department of Mineral Resources. 1993. Geologic Map of Virginia: Virginia Division of Mineral Resources, scale 1:500,000.
- VWMB (Virginia Waste Management Board). 2019. Virginia Solid Waste Management Regulations – (9VAC20-81 et seq.). March.

## TABLES





**Table 1**  
**Historical Groundwater Elevation Table**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		11/27/2006	5.81	526.63
		05/07/2007	6.95	525.49
		11/26/2007	5.65	526.79
		06/11/2008	4.79	527.65
		12/01/2008	4.98	527.46
		06/08/2009	3.87	528.57
		12/01/2009	4.60	527.84
		06/07/2010	4.87	527.57
		11/29/2010	5.29	527.15
		05/02/2011	3.87	528.57
		10/03/2011	4.40	528.04
		04/16/2012	4.57	527.87
		10/02/2012	5.43	527.01
		04/15/2013	4.20	528.24
		10/14/2013	4.23	528.21
		04/07/2014	3.81	528.63
		10/13/2014	6.00	526.44
		04/07/2015	4.12	528.32
		10/12/2015	4.65	527.79
		04/04/2016	4.25	528.19
		10/03/2016	5.07	527.37
		04/04/2017	3.94	528.50
		10/02/2017	7.13	525.31
		04/02/2018	4.43	528.01
		09/25/2018	3.66	528.78
		04/01/2019	3.90	528.54
		10/14/2019	6.54	525.90
		04/28/2020	3.80	528.64
		10/19/2020	4.33	528.11
		4/19/2021	3.90	528.54
		10/18/2021	4.90	527.54
		11/4/2021	4.46	527.98
		03/28/2022	4.08	528.36
		10/18/2022	5.15	527.29
MW-1C	537.3	12/01/2008	13.18	524.12
		01/20/2009	13.34	523.96
		06/08/2009	12.87	524.43
		12/01/2009	13.13	524.17
		06/07/2010	13.30	524.00
		11/29/2010	13.61	523.69
		05/02/2011	12.91	524.39
		10/03/2011	13.20	524.10
		04/16/2012	13.40	523.90
		10/02/2012	13.53	523.77
		04/15/2013	13.17	524.13
		10/14/2013	13.00	524.30
		04/07/2014	13.03	524.27
		10/13/2014	14.78	522.52
		04/07/2015	13.27	524.03
		10/12/2015	13.68	523.62
		04/04/2016	13.44	523.86

**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		10/03/2016	14.00	523.30
		04/04/2017	13.42	523.88
		10/02/2017	16.50	520.80
		04/02/2018	13.73	523.57
		09/25/2018	12.94	524.36
		04/01/2019	13.50	523.80
		10/14/2019	14.81	522.49
		04/28/2020	13.48	523.82
		10/19/2020	13.85	523.45
		4/19/2021	13.67	523.63
		10/18/2021	14.00	523.30
		03/28/2022	14.77	522.53
		10/18/2022	14.10	523.20
MW-1D	522.01	11/29/2010	17.35	504.66
		05/02/2011	17.35	504.66
		10/03/2011	15.90	506.11
		04/16/2012	15.79	506.22
		10/03/2012	18.63	503.38
		04/15/2013	14.81	507.20
		10/14/2013	16.51	505.50
		04/07/2014	14.11	507.90
		10/13/2014	18.23	503.78
		04/07/2015	14.80	507.21
		10/12/2015	16.71	505.30
		04/04/2016	15.07	506.94
		10/03/2016	17.91	504.10
		04/04/2017	15.28	506.73
		10/02/2017	20.07	501.94
		04/02/2018	16.70	505.31
		09/25/2018	15.25	506.76
		04/01/2019	14.60	507.41
		10/14/2019	19.02	502.99
		04/28/2020	14.32	507.69
		10/19/2020	15.28	506.73
		4/19/2021	14.59	507.42
		10/18/2021	16.92	505.09
		03/28/2022	14.79	507.22
		10/18/2022	17.55	504.46
MW-1E	517.05	11/29/2010	18.00	499.05
		05/02/2011	15.40	501.65
		06/22/2011	13.90	503.15
		10/03/2011	19.50	497.55
		04/16/2012	17.47	499.58
		10/03/2012	23.79	493.26
		04/15/2013	19.27	497.78
		10/14/2013	18.10	498.95
		04/07/2014	17.93	499.12
		10/13/2014	17.96	499.09
		04/07/2015	15.80	501.25
		10/12/2015	17.81	499.24
		04/04/2016	15.81	501.24









**Table 1**  
**Historical Groundwater Elevation Table**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		04/07/2014	11.42	506.21
		10/13/2014	15.75	501.88
		04/07/2015	12.05	505.58
		10/12/2015	14.10	503.53
		04/04/2016	12.36	505.27
		10/03/2016	15.40	502.23
		04/04/2017	12.61	505.02
		10/02/2017	17.58	500.05
		04/02/2018	14.02	503.61
		09/25/2018	12.78	504.85
		04/01/2019	11.81	505.82
		10/14/2019	16.54	501.09
		04/28/2020	11.55	506.08
		10/19/2020	13.10	504.53
		4/19/2021	11.84	505.79
		10/18/2021	14.20	503.43
		03/28/2022	11.95	505.68
		10/18/2022	14.85	502.78
MW-3A	527.04	05/09/2000	7.45	519.59
		11/07/2000	10.89	516.15
		05/02/2001	8.00	519.04
		12/17/2001	10.91	516.13
		01/31/2002	11.32	515.72
		05/14/2002	9.46	517.58
		06/24/2002	11.49	515.55
		11/04/2002	11.29	515.75
		01/13/2003	5.76	521.28
		07/18/2003	5.30	521.74
		11/18/2003	4.68	522.36
		05/10/2004	4.16	522.88
		11/01/2004	8.45	518.59
		05/03/2005	5.15	521.89
		11/14/2005	8.61	518.43
		05/15/2006	7.23	519.81
		11/27/2006	5.63	521.41
		05/07/2007	7.14	519.90
		11/26/2007	12.98	514.06
		06/11/2008	7.55	519.49
		12/01/2008	12.55	514.49
		01/20/2009	10.30	516.74
		06/08/2009	5.32	521.72
		12/01/2009	10.80	516.24
		06/07/2010	10.63	516.41
		11/29/2010	13.00	514.04
		05/02/2011	5.50	521.54
		10/03/2011	10.00	517.04
		04/16/2012	8.70	518.34
		10/02/2012	15.31	511.73
		04/15/2013	6.82	520.22
		10/14/2013	8.77	518.27
		04/07/2014	5.39	521.65

**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		10/13/2014	12.81	514.23
		04/07/2015	6.81	520.23
		10/12/2015	12.75	514.29
		04/04/2016	7.13	519.91
		10/03/2016	12.46	514.58
		04/04/2017	9.25	517.79
		10/02/2017	14.94	512.10
		04/02/2018	11.99	515.05
		09/25/2018	7.09	519.95
		04/01/2019	5.75	521.29
		10/14/2019	12.17	514.87
		04/28/2020	4.70	522.34
		10/19/2020	8.88	518.16
		4/19/2021	5.38	521.66
		10/18/2021	11.41	515.63
		03/28/2022	7.65	519.39
		10/18/2022	BTOP	
MW-4	617.56	05/09/2000	39.20	578.36
		11/07/2000	38.93	578.63
		05/02/2001	40.16	577.40
		12/17/2001	39.31	578.25
		01/31/2002	40.08	577.48
		05/14/2002	41.97	575.59
		06/24/2002	41.07	576.49
		11/04/2002	41.05	576.51
		01/13/2003	39.99	577.57
		07/18/2003	33.05	584.51
		11/18/2003	33.08	584.48
		05/10/2004	30.50	587.06
		11/01/2004	32.31	585.25
		05/03/2005	33.22	584.34
		11/14/2005	34.28	583.28
		05/15/2006	36.71	580.85
	618.02	11/27/2006	37.35	580.67
		05/07/2007	37.55	580.47
		11/26/2007	38.10	579.92
		06/11/2008	39.85	578.17
		12/01/2008	39.90	578.12
		06/08/2009	39.82	578.20
		12/01/2009	40.32	577.70
		06/07/2010	36.81	581.21
		11/29/2010	38.17	579.85
		05/02/2011	39.02	579.00
		10/03/2011	38.50	579.52
		04/16/2012	38.40	579.62
		10/02/2012	38.90	579.12
		04/15/2013	38.80	579.22
		10/14/2013	36.92	581.10
		04/07/2014	36.13	581.89
		10/13/2014	33.97	584.05
		04/07/2015	36.90	581.12



**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		10/12/2015	37.65	580.37
		04/04/2016	36.95	581.07
		10/03/2016	36.66	581.36
		04/04/2017	38.43	579.59
		10/02/2017	39.05	578.97
		04/02/2018	40.83	577.19
		09/25/2018	40.21	577.81
		04/01/2019	33.50	584.52
		10/14/2019	34.78	583.24
		04/28/2020	38.05	579.97
		10/19/2020	38.02	580.00
		4/19/2021	33.95	584.07
		5/21/2021	33.68	584.34
		10/18/2021	35.11	582.91
		03/28/2022	37.60	580.42
		10/18/2022	38.79	579.23
MW-4A	514.25	05/09/2000	31.03	483.22
		11/07/2000	32.46	481.79
		05/02/2001	32.46	481.79
		12/17/2001	32.45	481.80
		01/31/2002	32.47	481.78
		06/24/2002	32.50	481.75
		01/13/2003	32.52	481.73
		07/18/2003	18.42	495.83
		11/18/2003	18.29	495.96
		05/10/2004	17.40	496.85
		11/01/2004	24.15	490.10
MW-5	561.23	05/09/2000	8.64	552.59
		11/07/2000	9.45	551.78
		05/02/2001	9.08	552.15
		12/17/2001	9.59	551.64
		01/31/2002	9.64	551.59
		06/24/2002	9.85	551.38
		01/13/2003	7.97	553.26
		11/18/2003	7.92	553.31
		05/10/2004	8.06	553.17
		11/01/2004	9.23	552.00
		05/03/2005	8.05	553.18
		11/14/2005	9.21	552.02
		05/15/2006	9.29	551.94
		11/27/2006	7.67	553.56
		05/07/2007	9.12	552.11
		11/26/2007	9.80	551.43
		06/11/2008	8.93	552.30
		12/01/2008	9.36	551.87
		06/08/2009	7.76	553.47
		12/01/2009	8.43	552.80
		06/07/2010	9.66	551.57
		11/29/2010	9.35	551.88
		05/02/2011	7.70	553.53
		10/03/2011	8.20	553.03









**Table 1**  
**Historical Groundwater Elevation Table**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		11/07/2000	8.93	564.70
		05/02/2001	7.97	565.66
		12/17/2001	8.44	565.19
		01/31/2002	8.85	564.78
		06/24/2002	9.45	564.18
		01/13/2003	6.13	567.50
		11/18/2003	5.87	567.76
		05/10/2004	5.82	567.81
		11/01/2004	7.45	566.18
		05/03/2005	5.85	567.78
		11/14/2005	7.52	566.11
		05/15/2006	7.21	566.42
		11/27/2006	5.13	568.50
		05/07/2007	7.22	566.41
		11/26/2007	8.76	564.87
		06/11/2008	6.92	566.71
		12/01/2008	6.39	567.24
		03/09/2009	7.08	566.55
		06/08/2009	5.43	568.20
		09/09/2009	8.61	565.02
		12/01/2009	4.50	569.13
		06/07/2010	6.97	566.66
		11/29/2010	7.57	566.06
		05/02/2011	4.11	569.52
		10/03/2011	6.60	567.03
		04/16/2012	6.68	566.95
		10/03/2012	3.71	569.92
		04/15/2013	4.72	568.91
		10/14/2013	4.06	569.57
		04/07/2014	4.26	569.37
		10/13/2014	7.77	565.86
		04/07/2015	3.85	569.78
		10/12/2015	6.24	567.39
		04/04/2016	4.70	568.93
		10/03/2016	6.82	566.81
		04/04/2017	3.95	569.68
		10/02/2017	4.18	569.45
		04/02/2018	4.22	569.41
		09/25/2018	4.58	569.05
		04/01/2019	4.00	569.63
		10/14/2019	7.33	566.30
		04/28/2020	3.97	569.66
		10/19/2020	4.80	568.83
		4/19/2021	3.80	569.83
		10/18/2021	6.13	567.50
		03/28/2022	4.51	569.12
		10/18/2022	6.62	567.01
MW-X2D	570.6	12/01/2008	61.29	509.31
		06/08/2009	62.50	508.10
		12/01/2009	63.04	507.56
		06/07/2010	62.13	508.47









**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		11/18/2003	34.08	447.19
		05/10/2004	14.61	466.66
		11/01/2004	17.30	463.97
PZ-3E	588.44	05/09/2000	20.82	567.62
		11/07/2000	16.83	571.61
		05/02/2001	21.33	567.11
		12/17/2001	21.03	567.41
		01/31/2002	21.67	566.77
		06/24/2002	23.76	564.68
		01/13/2003	23.06	565.38
		07/18/2003	20.10	568.34
		11/18/2003	19.77	568.67
		05/10/2004	19.08	569.36
		11/01/2004	20.48	567.96
		05/03/2005	19.71	568.73
		11/14/2005	21.09	567.35
		05/15/2006	21.17	567.27
		11/27/2006	21.41	567.03
		05/07/2007	20.89	567.55
		11/26/2007	23.00	565.44
		06/11/2008	22.11	566.33
		12/01/2008	23.66	564.78
		06/08/2009	22.35	566.09
		12/01/2009	23.53	564.91
		11/29/2010	23.33	565.11
		05/02/2011	22.11	566.33
		04/16/2012	21.20	567.24
		10/04/2012	23.65	564.79
		04/15/2013	22.25	566.19
		10/14/2013	22.46	565.98
		04/07/2014	20.90	567.54
		10/13/2014	22.05	566.39
		04/07/2015	21.84	566.60
		10/12/2015	22.82	565.62
		04/04/2016	21.40	567.04
		10/03/2016	23.16	565.28
		04/04/2017	23.63	564.81
		10/02/2017	23.88	564.56
		04/02/2018	24.46	563.98
		09/25/2018	23.62	564.82
		04/01/2019	20.40	568.04
PZ-4	483.03	05/09/2000	28.27	454.76
		12/17/2001	30.46	452.57
		01/31/2002	30.44	452.59
		06/24/2002	31.00	452.03
		01/13/2003	29.93	453.10
		11/18/2003	24.28	458.75
		05/10/2004	23.07	459.96
		11/01/2004	26.25	456.78
PZ-4E	591.21	05/09/2000	21.55	569.66
		11/07/2000	23.15	568.06











**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		09/25/2018	42.77	578.20
		04/01/2019	36.10	584.87
CLF-15A	588.85	01/31/2002	21.96	566.89
		06/24/2002	21.93	566.92
		01/13/2003	22.54	566.31
		07/18/2003	18.69	570.16
		11/18/2003	15.95	572.90
		05/10/2004	15.97	572.88
		11/01/2004	18.84	570.01
		05/03/2005	16.85	572.00
		11/14/2005	19.58	569.27
		05/15/2006	18.45	570.40
		11/27/2006	17.72	571.13
		05/07/2007	17.70	571.15
		11/26/2007	25.63	563.22
		06/11/2008	19.01	569.84
		12/01/2008	51.27	537.58
		03/09/2009	49.20	539.65
		06/08/2009	47.22	541.63
		09/09/2009	47.46	541.39
		12/01/2009	48.55	540.30
		06/07/2010	52.50	536.35
		11/29/2010	61.95	526.90
		05/02/2011	47.77	541.08
		10/03/2011	47.10	541.75
		04/16/2012	46.70	542.15
		10/03/2012	53.25	535.60
		04/15/2013	52.54	536.31
		10/14/2013	48.28	540.57
		04/07/2014	53.68	535.17
		10/13/2014	51.16	537.69
		04/07/2015	47.00	541.85
		10/12/2015	47.45	541.40
		04/04/2016	52.28	536.57
		10/03/2016	44.10	544.75
		04/04/2017	47.67	541.18
		10/02/2017	46.01	542.84
		04/02/2018	48.22	540.63
		09/25/2018	51.20	537.65
		04/01/2019	40.30	548.55
		10/14/2019	42.90	545.95
		04/29/2020	49.20	539.65
		10/20/2020	50.20	538.65
		4/20/2021	44.90	543.95
		10/18/2021	46.75	542.10
		03/28/2022	44.86	543.99
		10/18/2022	41.74	547.11
CLF-15B	590.41	06/24/2002	23.00	567.41
		01/13/2003	21.50	568.91
		07/18/2003	17.81	572.60
		11/18/2003	16.49	573.92



**Table 1**  
**Historical Groundwater Elevation Table**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		05/10/2004	15.66	574.75
		11/01/2004	18.91	571.50
		05/03/2005	16.17	574.24
		11/14/2005	19.84	570.57
		05/15/2006	18.42	571.99
		11/27/2006	18.59	571.82
		05/07/2007	17.80	572.61
		11/26/2007	22.80	567.61
		06/11/2008	20.11	570.30
		12/01/2008	23.41	567.00
		06/08/2009	19.89	570.52
		12/01/2009	23.31	567.10
		11/29/2010	23.73	566.68
		05/02/2011	20.55	569.86
		04/16/2012	19.42	570.99
		10/04/2012	23.72	566.69
		04/15/2013	20.30	570.11
		10/14/2013	21.25	569.16
		04/07/2014	17.75	572.66
		10/13/2014	21.68	568.73
		04/07/2015	19.95	570.46
		10/12/2015	22.50	567.91
		04/04/2016	18.70	571.71
		10/03/2016	20.71	569.70
		04/04/2017	18.76	571.65
		10/02/2017	21.18	569.23
		04/02/2018	19.21	571.20
		09/25/2018	20.60	569.81
		04/01/2019	14.83	575.58
CLF-E1	616.99	06/24/2002	33.80	583.19
		01/13/2003	33.41	583.58
		07/18/2003	20.89	596.10
		11/18/2003	20.30	596.69
		05/10/2004	17.44	599.55
		11/01/2004	22.87	594.12
		05/03/2005	20.90	596.09
		11/14/2005	24.94	592.05
		05/15/2006	25.51	591.48
		11/27/2006	27.37	589.62
		05/07/2007	24.00	592.99
		11/26/2007	29.55	587.44
		06/11/2008	29.05	587.94
		12/01/2008	31.56	585.43
		06/08/2009	30.05	586.94
		12/01/2009	31.07	585.92
		11/29/2010	29.30	587.69
		05/02/2011	28.44	588.55
		04/16/2012	25.62	591.37
		10/02/2012	30.19	586.80
		04/15/2013	29.45	587.54
		10/15/2013	27.29	589.70







**Table 1  
Historical Groundwater Elevation Table  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		04/15/2013	12.58	546.59
		10/14/2013	10.58	548.59
		04/07/2014	11.94	547.23
		10/13/2014	17.04	542.13
		04/07/2015	14.00	545.17
		10/12/2015	15.13	544.04
		04/04/2016	14.53	544.64
		10/03/2016	16.89	542.28
		04/04/2017	11.17	548.00
		10/02/2017	15.55	543.62
		04/02/2018	14.20	544.97
		09/25/2018	14.81	544.36
		04/01/2019	9.35	549.82
CLF-E4	549.03	12/01/2008	10.10	538.93
		06/08/2009	6.66	542.37
		12/01/2009	8.29	540.74
		06/07/2010	9.29	539.74
		11/29/2010	10.35	538.68
		05/02/2011	6.85	542.18
		10/03/2011	8.85	540.18
		04/16/2012	9.15	539.88
		10/04/2012	10.65	538.38
		04/15/2013	7.15	541.88
		10/14/2013	6.85	542.18
		04/07/2014	6.68	542.35
		10/13/2014	11.89	537.14
		04/07/2015	7.21	541.82
		10/12/2015	8.92	540.11
		04/04/2016	8.51	540.52
		10/03/2016	11.02	538.01
		04/04/2017	7.00	542.03
		10/02/2017	11.81	537.22
		04/02/2018	7.74	541.29
		09/25/2018	11.55	537.48
		04/01/2019	6.10	542.93
CLF-S1	557.28	06/24/2002	7.30	549.98
		01/13/2003	3.88	553.40
		07/18/2003	0.00	557.28
		11/18/2003	0.00	557.28
		05/10/2004	0.00	557.28
		11/01/2004	0.25	557.03
		05/03/2005	0.00	557.28
		11/14/2005	0.78	556.50
		05/15/2006	0.00	557.28
		11/27/2006	0.00	557.28
		05/07/2007	0.00	557.28
		11/26/2007	2.30	554.98
		06/11/2008	0.00	557.28
		12/01/2008	1.79	555.49
		06/08/2009	0.00	557.28
		12/01/2009	1.26	556.02

**Table 1**  
**Historical Groundwater Elevation Table**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

			Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
Well ID	TOC Elevation	Date		
		11/29/2010	3.59	553.69
		05/02/2011	5.30	551.98
		10/03/2011	1.90	555.38
		04/16/2012	4.40	552.88
		10/03/2012	67.17	490.11
		04/15/2013	84.67	472.61
		10/14/2013	84.05	473.23
		04/07/2014	89.43	467.85
		10/13/2014	89.95	467.33
		04/07/2015	89.65	467.63
		10/12/2015	87.88	469.40
		04/04/2016	84.36	472.92
		10/03/2016	81.03	476.25
		04/04/2017	88.21	469.07
		10/02/2017	82.16	475.12
		04/02/2018	79.50	477.78
		09/25/2018	90.11	467.17
		04/01/2019	79.30	477.98
		10/14/2019	53.65	503.63
		04/29/2020	74.06	483.22
		10/20/2020	78.36	478.92
		4/20/2021	68.35	488.93
		10/18/2021	72.20	485.08
		3/28/2022	66.11	491.17
		10/18/2022	54.02	503.26
CLF-S2	562.89	06/24/2002	9.26	553.63
		01/13/2003	4.82	558.07
		07/18/2003	3.85	559.04
		11/18/2003	3.40	559.49
		05/10/2004	3.79	559.10
		11/01/2004	5.93	556.96
		05/03/2005	3.64	559.25
		11/14/2005	6.26	556.63
		05/15/2006	4.84	558.05
		11/27/2006	3.87	559.02
		05/07/2007	5.00	557.89
		11/26/2007	10.32	552.57
		06/11/2008	4.96	557.93
		12/01/2008	8.61	554.28
		06/08/2009	3.47	559.42
		12/01/2009	6.68	556.21
		11/29/2010	9.38	553.51
		05/02/2011	3.62	559.27
		04/16/2012	5.18	557.71
		10/04/2012	9.50	553.39
		04/15/2013	3.85	559.04
		10/14/2013	4.70	558.19
		04/07/2014	2.85	560.04
		10/13/2014	9.18	553.71
		04/01/2019	3.40	559.49
CLF-S3	571.23	07/18/2003	15.88	555.35















**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result		
<b>1,1-Dichloroethane</b>																																					
1993-07	UNKNOWN	5	5 ug/L	301	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1994-12	UNKNOWN	0.48	1.6 ug/L	301	ACL	--	ND	ND	ND	7.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-01	UNKNOWN	0.48	1.6 ug/L	301	ACL	--	ND	5.1	ND	9.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-02	UNKNOWN	0.48	1.6 ug/L	301	ACL	--	6.1	4.3	ND	6.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-03	UNKNOWN	0.48	1.6 ug/L	301	ACL	--	6	3	ND	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-09	UNKNOWN	0.48	1.6 ug/L	301	ACL	--	7.1	4.6	ND	12.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-02	UNKNOWN	0.18	5 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-04	UNKNOWN	0.18	5 ug/L	301	ACL	ND	6.7	7.2	ND	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-05	UNKNOWN	0.18	5 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-06	UNKNOWN	0.18	5 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-10	UNKNOWN	0.18	5 ug/L	301	ACL	ND	8.1	7.5	ND	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-05	UNKNOWN	0.18	5 ug/L	301	ACL	ND	6.5	7.9	ND	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-12	UNKNOWN	0.18	5 ug/L	301	ACL	ND	6.3	6.8	ND	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-01	UNKNOWN	0.18	5 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.5	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-05	UNKNOWN	0.21	2 ug/L	301	ACL	ND	7.62	9.25	J	15	J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-11	UNKNOWN	0.21	1 ug/L	301	ACL	ND	13	11	14	18	10.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1999-05	UNKNOWN	0.169	1 ug/L	301	ACL	ND	5.49	5.02	1.57	5.47	8.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1999-12	UNKNOWN	0.54	1.78 ug/L	301	ACL	ND	7.96	14.07	ND	20.83	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2000-05	UNKNOWN	0.28	0.95 ug/L	301	ACL	ND	6.97	5.16	0.66	J	7.59	11.00	Re 9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2000-06	UNKNOWN	0.54	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	2.66	1.35	3.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2000-11	UNKNOWN	0.54	1 ug/L	301	ACL	ND	10.97	9.23	7.05	13.94	12.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-03	UNKNOWN	0.54	1.78 ug/L	301	ACL	ND	--	--	--	--	--	5.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-05	UNKNOWN	0.54	1 ug/L	301	ACL	ND	6.54	5.38	ND	9.05	21.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-12	UNKNOWN	0.1	0.5 ug/L	301	ACL	ND	11.8	8.3	6.8	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-02	UNKNOWN	0.1	5 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.5	--	--	--	--	--	--	--	--	--	--	
2002-05	UNKNOWN	0.1	1 ug/L	301	ACL	ND	14.9	ND	ND	14.3	R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-06	UNKNOWN	0.1	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-11	UNKNOWN	0.1	0.5 ug/L	301	ACL	ND	7.9	6.8	2.1	8.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-01	UNKNOWN	0.1	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-05	UNKNOWN	0.2	1 ug/L	301	ACL	ND	13	8.2	ND	8.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-07	UNKNOWN	0.2	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.5	ND	--	--	1.8	ND	ND	ND	ND	ND	ND	ND	
2003-11	UNKNOWN	0.2	1 ug/L	301	ACL	ND	15	9	ND	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-12	UNKNOWN	0.2	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	ND	--	--	1.5	ND	ND	ND	ND	ND	ND	ND	
2004-03	UNKNOWN	0.2	1 ug/L	301	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.1	ND	--	--	1.7	ND	ND	ND	ND	ND	ND	ND		
2004-05	UNKNOWN	0.2	1 ug/L	301	ACL	ND	12	8.4	ND	5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	8.1	ND	--	--	1.5	ND	ND	ND	ND	ND	ND	ND		
2004-11	UNKNOWN	0.2	1 ug/L	301	ACL	ND	12	8.6	ND	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7	ND	--	--	2.1	ND	ND	ND	ND	ND	ND	ND		
2005-05	UNKNOWN	0.2	1 ug/L	301	ACL	ND	14	8.6	ND	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	ND	--	--	2	ND	ND	ND	ND	ND	ND	ND		
2005-11	UNKNOWN	0.2	1 ug/L	301	ACL	ND	14	8.1	0.4	J	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2006-05	UNKNOWN	0.2	1 ug/L	301	ACL	ND	15	7.5	ND	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2006-11	UNKNOWN	0.2	1 ug/L	301	ACL	ND	13.3	6.9	ND	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2007-05	UNKNOWN	0.2	1 ug/L	327	ACL	ND	16.8	7.8	0.5	J	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2007-11	UNKNOWN	0.2	1 ug/L	327	ACL	ND	15.9	7.5	3.6	4.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2008-06	UNKNOWN	0.2	1 ug/L	327	ACL	ND	14.4	7.4	ND	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2008-12	UNKNOWN	0.2	1 ug/L	327	ACL	ND	14.7	6.5	1.7	4.7	1.4	0.4	J	1	J	15.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2009-03	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	1.1	0.3	J	ND	3.5	ND	--	--	3.6	ND	ND	ND	ND		
2009-06	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	13.7	7.1	ND	5.4	1.3	0.3	J	0.8	J	21.2	--	--	--	--	1.8	Re	2.2	ND	1.1	ND	1.8	0.2	J	--	4.4	ND	ND	ND	ND		
2009-09	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	J	--	1.2	ND	1.6	ND	--	--	ND	ND	ND	ND	ND	ND		
2009-12	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	13.4	6.7	ND	5.3	1.4	0.3	J	1.2	21.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5	ND	ND	ND	ND		
2010-03	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2010-06	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	10.8	6	ND	5.7	1.3	ND	1.8	22.8	3.8	--	--	--	--	--	1.5	ND	0.5	J	ND	1.8	ND	ND	--	3.9	ND	ND	ND	ND			
2010-11	UNKNOWN	0.2	1 ug/L	1.8785	ACL	ND	11.6	5.9	0.8	J	5.3	0.9	J	1.8	20.3	4.3	4.3	4.7	Re	--	ND	0.7	J	ND	ND	1.9	ND	ND	--	2.2	ND	ND	ND	ND			
2011-05	UNKNOWN	0.2	1 ug/L	2.4192	ACL	ND	12.3	5.7	ND	5.1	1	ND	1.9	22.9	4.2	5.2	6.8	--	--	--	--	--	--	--	--	--	1.1	0.4	J	ND	1.7	ND	ND	ND	ND		
2011-06	UNKNOWN	0.2	1 ug/L	2.4192																																	









**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2					
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result				
<b>1,4-Naphthoquinone</b>																																					
2020-04	SW8270D	2.08	10.4	ug/L	0	LOQ	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	2.11	10.5	ug/L	0	LOQ	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	2.13	10.6	ug/L	0	LOQ	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	2.15	10.8	ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	2.17	10.9	ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2021-04	SW8270D	2	10	ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.9	10	ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	2	10	ug/L	0	LOQ	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	2.02	10.1	ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	2.06	10.3	ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	2.08	10.4	ug/L	0	LOQ	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
<b>1-Naphthylamine</b>																																					
2020-04	SW8270D	1.04	10.4	ug/L	0	LOQ	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.05	10.5	ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.06	10.6	ug/L	0	LOQ	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.08	10.8	ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.09	10.9	ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2021-04	SW8270D	1	10	ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	0.95	10	ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1	10	ug/L	0	LOQ	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1.01	10.1	ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.03	10.3	ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.04	10.4	ug/L	0	LOQ	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
<b>2,2-Dichloropropane</b>																																					
2020-04	SW8260B	0.6	2	ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2021-04	SW8260B	0.6	2	ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8260B	0.6	2	ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
<b>2,3,4,6-Tetrachlorophenol</b>																																					
2020-04	SW8270D	1.04	10.4	ug/L	240	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.05	10.5	ug/L	240	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.06	10.6	ug/L	240	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.08	10.8	ug/L	240	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.09	10.9	ug/L	240	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2021-04	SW8270D	1	10	ug/L	240	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	0.95	10	ug/L	240	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1	10	ug/L	240	ACL	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1.01	10.1	ug/L	240	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.03	10.3	ug/L	240	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.04	10.4	ug/L	240	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
<b>2,4,5-Trichlorophenol</b>																																					
2020-04	SW8270D	1.04	10.4	ug/L	1200	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.05	10.5	ug/L	1200	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.06	10.6	ug/L	1200	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.08	10.8	ug/L	1200	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2020-04	SW8270D	1.09	10.9	ug/L	1200	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2021-04	SW8270D	1	10	ug/L	1200	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	0.95	10	ug/L	1200	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1	10	ug/L	1200	ACL	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2022-03	SW8270D	1.01	10.1	ug/L	1200	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.03	10.3	ug/L	1200	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2022-03	SW8270D	1.04	10.4	ug/L	1200	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
<b>2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)</b>																																					
1994-12	UNKNOWN	0.06	0.4	ug/L	2	EQL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
1995-01	UNKNOWN	0.06	0.4	ug/L	2	EQL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1995-02	UNKNOWN	0.06	0.4	ug/L	2	EQL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1995-03	UNKNOWN	0.06	0.4	ug/L	2	EQL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1996-04	UNKNOWN	0.017	1	ug/L	2	EQL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1997-05	UNKNOWN	0.03	1	ug/L	2	EQL	ND	ND	0.17 J	0.18 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1998-05	UNKNOWN	0.006	2	ug/L	2	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1999-05	UNKNOWN	0.015	0.049	ug/L	2	EQL	0.533	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
1999-12	UNKNOWN	0.014	0.048	ug/L	2	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2000-05	UNKNOWN	0.014	0.048	ug/L	2	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND				
2000-11	UNKNOWN	0.02	0.068	ug/L	2	EQL	ND	ND	ND</																												











**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result		
<b>4-Chloro-3-methylphenol</b>																																						
2021-04	SW8270D	8	10 ug/L	1400	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	
2022-03	SW8270D	7.62	10 ug/L	1400	ACL	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-03	SW8270D	8	10 ug/L	1400	ACL	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-03	SW8270D	8.08	10.1 ug/L	1400	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	
2022-03	SW8270D	8.25	10.3 ug/L	1400	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2022-03	SW8270D	8.33	10.4 ug/L	1400	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
<b>4-Chlorophenyl phenyl ether</b>																																						
2020-04	SW8270D	3.65	10.4 ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.68	10.5 ug/L	0	LOQ	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.72	10.6 ug/L	0	LOQ	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.76	10.8 ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.8	10.9 ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	
2021-04	SW8270D	3.5	10 ug/L	0	LOQ	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	
2022-03	SW8270D	3.33	10 ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2022-03	SW8270D	3.5	10 ug/L	0	LOQ	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2022-03	SW8270D	3.54	10.1 ug/L	0	LOQ	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2022-03	SW8270D	3.61	10.3 ug/L	0	LOQ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	
2022-03	SW8270D	3.65	10.4 ug/L	0	LOQ	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
<b>4-Methyl-2-pentanone / Methyl isobutyl ketone</b>																																						
2019-10	SW8260B	5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2020-04	SW8260B	1.5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2020-10	SW8260B	1.5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2021-04	SW8260B	1.5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2021-10	SW8260B	1.5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2022-03	SW8260B	1.5	5 ug/L	6300	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2022-09	SW8260B	1.5	5 ug/L	6300	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND
2022-10	SW8260B	1.5	5 ug/L	6300	ACL	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>5-Nitro-o-toluidine</b>																																						
2020-04	SW8270D	2.08	10.4 ug/L	8.2	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	2.11	10.5 ug/L	8.2	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.13	10.6 ug/L	8.2	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.15	10.8 ug/L	8.2	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.17	10.9 ug/L	8.2	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2021-04	SW8270D	2	10 ug/L	8.2	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2022-03	SW8270D	1.9	10 ug/L	8.2	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2	10 ug/L	8.2	ACL	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2.02	10.1 ug/L	8.2	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2.06	10.3 ug/L	8.2	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2022-03	SW8270D	2.08	10.4 ug/L	8.2	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>7,12-Dimethylbenz[a]anthracene</b>																																						
2020-04	SW8270D	2.08	10.4 ug/L	0.0001	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.11	10.5 ug/L	0.0001	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.13	10.6 ug/L	0.0001	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.15	10.8 ug/L	0.0001	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	2.17	10.9 ug/L	0.0001	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2021-04	SW8270D	2	10 ug/L	0.0001	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2022-03	SW8270D	1.9	10 ug/L	0.0001	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2	10 ug/L	0.0001	ACL	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2.02	10.1 ug/L	0.0001	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2022-03	SW8270D	2.06	10.3 ug/L	0.0001	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--
2022-03	SW8270D	2.08	10.4 ug/L	0.0001	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>Acenaphthene</b>																																						
2020-04	SW8270D	4.17	10.4 ug/L	530	ACL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	4.21	10.5 ug/L	530	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	4.26	10.6 ug/L	530	ACL	--	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2020-04	SW8270D	4.3	10.8 ug/L																																			



**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>Acetophenone</b>																																					
2020-04	SW8270D	2.08	20.8	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2020-04	SW8270D	2.11	21.1	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2020-04	SW8270D	2.13	21.3	ug/L	1900	ACL	--	ND	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2020-04	SW8270D	2.15	21.5	ug/L	1900	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2020-04	SW8270D	2.17	21.7	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2021-04	SW8270D	2	20	ug/L	1900	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND			
2022-03	SW8270D	1.9	20	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND			
2022-03	SW8270D	2	20	ug/L	1900	ACL	--	ND	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2022-03	SW8270D	2.02	20.2	ug/L	1900	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND			
2022-03	SW8270D	2.06	20.6	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND			
2022-03	SW8270D	2.08	20.8	ug/L	1900	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND			
<b>Acrolein</b>																																					
2020-04	SW8260B	6	10	ug/L	0.042	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
2021-04	SW8260B	6	10	ug/L	0.042	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
2022-03	SW8260B	6	10	ug/L	0.042	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
<b>Acrylonitrile</b>																																					
2019-10	SW8260B	5	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2020-04	SW8260B	1.7	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2020-10	SW8260B	1.7	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2021-04	SW8260B	1.7	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2021-10	SW8260B	1.7	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2022-03	SW8260B	1.7	5	ug/L	0.052	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2022-09	SW8260B	1.7	5	ug/L	0.052	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
2022-10	SW8260B	1.7	5	ug/L	0.052	ACL	--	ND	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
<b>Adrin</b>																																					
2020-04	SW8081B	0.005	0.053	ug/L	0.0009	ACL	ND	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2020-04	SW8081B	0.005	0.054	ug/L	0.0009	ACL	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--		
2021-04	SW8081B	0.005	0.05	ug/L	0.0009	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--		
2022-03	SW8081B	0.005	0.05	ug/L	0.0009	ACL	ND	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--		
2022-03	SW8081B	0.005	0.053	ug/L	0.0009	ACL	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--		
<b>Allyl chloride</b>																																					
2020-04	SW8260B	0.6	1	ug/L	0.73	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
2021-04	SW8260B	0.6	1	ug/L	0.73	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
2022-03	SW8260B	0.6	1	ug/L	0.73	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND			
<b>alpha-BHC</b>																																					
2002-02	UNKNOWN	0.01	0.02	ug/L	0.03	EQL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND Re 0.013 J	--	--	--	--	--	ND	--	--			
2002-05	UNKNOWN	0.02	0.02	ug/L	0.03	EQL	ND	ND	ND	ND	ND R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2002-06	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--			
2003-01	UNKNOWN	0.02	0.02	ug/L	0.03	EQL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2003-05	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2003-07	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	ND	--			
2004-05	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	ND	0.018 J	ND Re	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2005-05	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2006-05	UNKNOWN	0.005	0.02	ug/L	0.03	EQL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2007-05	UNKNOWN	0.006	0.022	ug/L	0.011	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2008-06	UNKNOWN	0.006	0.022	ug/L	0.011	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2009-06	UNKNOWN	0.005	0.02	ug/L	0.0106	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2010-06	UNKNOWN	0.005	0.02	ug/L	0.0106	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2011-05	UNKNOWN	0.005	0.021	ug/L	0.0106	ACL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2012-04	SW8081B	0.005	0.01	ug/L	0.0106	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2013-04	SW8081B	0.004	0.05	ug/L	0.0106	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2014-04	SW8081B	0.005	0.05	ug/L	0.0062	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2015-04	SW8081B	0.005	0.05	ug/L	0.0071	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2016-04	SW8081B	0.005	0.055	ug/L	0.0072	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2017-04	SW8081B	0.005	0.053	ug/L	0.0072	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2018-04	SW8081B	0.005	0.054	ug/L	0.0072	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2019-04	SW8081B	1	1	ug/L	0.0072	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2020-04	SW8081B	0.005	0.053	ug/L	0.0072	ACL	ND	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2020-04	SW8081B	0.005	0.054	ug/L	0.0072	ACL	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--			
2021-04	SW8081B	0.005</																																			







**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2			
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result		
<b>Barium</b>																																				
1993-07	UNKNOW	5	ug/L	2000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490	--	--	--	--	--	--	--	--	
1994-12	UNKNOW	38	ug/L	2000	MCL	--	ND	ND	710	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-01	UNKNOW	38	ug/L	2000	MCL	--	ND	ND	500	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-02	UNKNOW	38	ug/L	2000	MCL	--	ND	ND	400	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-03	UNKNOW	38	ug/L	2000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-09	UNKNOW	38	ug/L	2000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-02	UNKNOW	2	ug/L	2000	MCL	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-04	UNKNOW	2	ug/L	2000	MCL	120	110	60	350	110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-05	UNKNOW	2	ug/L	2000	MCL	430	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-06	UNKNOW	0.73	ug/L	2000	MCL	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-10	UNKNOW	0.73	ug/L	2000	MCL	490	91	92	420	640	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1997-05	UNKNOW	0.73	ug/L	2000	MCL	13	68	46	230	71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1997-12	UNKNOW	0.73	ug/L	2000	MCL	19	61	77	220	95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-01	UNKNOW	0.73	ug/L	2000	MCL	--	--	--	--	--	66	--	--	--	--	--	--	--	--	--	150	300	71	--	--	200	--	--	--	--	--	--	--	--	--	
1998-05	UNKNOW	5.3	ug/L	2000	MCL	ND	72	63.1	142	62.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-11	UNKNOW	5.3	ug/L	2000	MCL	27	ND	ND	497	131	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1999-05	UNKNOW	2.31	ug/L	2000	MCL	8.31	80.3	120	194	218	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1999-12	UNKNOW	2.31	ug/L	2000	MCL	13.7 B	86.2	125	154	277	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.25	3.9	--	--	
2000-05	UNKNOW	2.31	ug/L	2000	MCL	12.4	71.9	115	57.5	40.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.32 J	--	--	--	--	--	--	--	--	--	
2000-11	UNKNOW	2.31	ug/L	2000	MCL	9.83	77.5	132	177	47.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-05	UNKNOW	2.31	ug/L	2000	MCL	14.3	88.2	137	51.1	151	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-12	UNKNOW	1	ug/L	2000	MCL	12	125	155	181	182	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-02	UNKNOW	5	ug/L	2000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	229	--	--	--	--	--	--	--	--	--	--	--
2002-05	UNKNOW	1	ug/L	2000	MCL	11	99	165	63	834 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-06	UNKNOW	1	ug/L	2000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	152	--	--	--	--	--	--	--	--	
2002-11	UNKNOW	1	ug/L	2000	MCL	10	90	160	90	600	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-01	UNKNOW	1	ug/L	2000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-05	UNKNOW	2	ug/L	2000	MCL	11	96	150	41	56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-07	UNKNOW	2	ug/L	2000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	--	72	--	--	--	--	--	--	--	
2003-11	UNKNOW	2	ug/L	2000	MCL	11	110	150	50	57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2004-05	UNKNOW	2	ug/L	2000	MCL	11	110	170	94	86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2004-11	UNKNOW	2	ug/L	2000	MCL	10	100	160	50	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2005-05	UNKNOW	2	ug/L	2000	MCL	12	110	170	57	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2005-11	UNKNOW	2	ug/L	2000	MCL	11	110	180	82	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2006-05	UNKNOW	2	ug/L	2000	MCL	12	111	194	71	55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2006-11	UNKNOW	2	ug/L	2000	MCL	11	115	207	104	51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2007-05	UNKNOW	2	ug/L	2000	MCL	12	124	209	111	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2007-11	UNKNOW	2	ug/L	2000	MCL	11.6	122	227	199	79.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2008-06	UNKNOW	2	ug/L	2000	MCL	10.4	119	211	132	62.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2008-12	UNKNOW	2	ug/L	2000	MCL	12.3	121	217	166	62.7	--	--	--	103	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2009-06	UNKNOW	2	ug/L	2000	MCL	10.7	120	220	120	69.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2009-12	UNKNOW	2	ug/L	2000	MCL	11.9	129	252	136	71.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2010-06	UNKNOW	2	ug/L	2000	MCL	11.8	115	216	39.1	91.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2010-11	UNKNOW	2	ug/L	2000	MCL	11.7	120	275	181	83.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2011-05	UNKNOW	2	ug/L	2000	MCL	10.8	122	222	152	63.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2011-10	SW6010C	2	ug/L	2000	MCL	12.7	127	301	240	1840	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2012-04	SW6010C	2	ug/L	2000	MCL	10.6	134	229	156	58.6 Re	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2012-10	SW6010C	2	ug/L	2000	MCL	15.4	157	251	340	66.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2013-04	SW6010C	2	ug/L	2000	MCL	11.8	131	238	113	68.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.5 J	--	--	
2013-10	SW6010C	2	ug/L	2000	MCL	11.4	128	235	161	76.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2014-04	SW6010C	2	ug/L	2000	MCL	12.2	144	229	137	66.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2014-10	SW6010C	2	ug/L	2000	MCL	12.7	160	241	366	92.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2015-04	SW6010C	2	ug/L	2000	MCL	12	148	227	93.4	192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2015-10	SW6010C	2	ug/L	2000	MCL	15	145	23																												





**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>Beryllium</b>																																						
1994-12	UNKNOW	0.11	0.5	ug/L	4.3	BKG	--	ND	ND	6	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-01	UNKNOW	0.11	0.5	ug/L	4.3	BKG	--	ND	ND	5.9	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-02	UNKNOW	0.11	0.5	ug/L	4.3	BKG	--	0.9	ND	5	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-03	UNKNOW	0.11	0.5	ug/L	4.3	BKG	--	ND	ND	6.6	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-09	UNKNOW	0.11	0.5	ug/L	4.3	BKG	--	ND	ND	6.7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-02	UNKNOW	0.5	2	ug/L	4.3	BKG	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-04	UNKNOW	0.5	2	ug/L	4.3	BKG	1.1 J	0.8 J	0.2 J	4.0	J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-05	UNKNOW	0.5	2	ug/L	4.3	BKG	1.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-06	UNKNOW	0.15	2	ug/L	4.3	BKG	0.3 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-10	UNKNOW	0.15	2	ug/L	4.3	BKG	7.2	1.1 B	0.6 B	8.7	4.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-05	UNKNOW	0.15	2	ug/L	4.3	BKG	ND	ND	ND	3.6	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-12	UNKNOW	0.15	2	ug/L	4.3	BKG	ND	ND	ND	2.7	0.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1998-01	UNKNOW	0.15	2	ug/L	4.3	BKG	--	--	--	--	--	0.4 J	--	--	--	--	--	--	--	--	ND	3.8	0.3 J	--	--	--	2.4	--	--	--	--	--	--	--	--			
1998-05	UNKNOW	0.5	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1998-11	UNKNOW	0.04	0.1	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1999-05	UNKNOW	1.17	3.91	ug/L	4.3	BKG	ND	ND	ND	1.83	J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1999-12	UNKNOW	1.17	3.91	ug/L	4.3	BKG	ND	ND	ND	3.47	J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-05	UNKNOW	1.17	3.91	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-11	UNKNOW	1.17	3.91	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-05	UNKNOW	1.17	3.91	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-12	UNKNOW	0.1	0.5	ug/L	4.3	BKG	0.2 J	0.6	ND	1.8	0.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-02	UNKNOW	0.15	0.5	ug/L	4.3	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	--	--			
2002-05	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	0.2 J	0.1 J	1.4	4.4 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-06	UNKNOW	0.1	0.5	ug/L	4.3	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--			
2002-11	UNKNOW	0.1	0.5	ug/L	4.3	BKG	0.1 J	0.4 J	0.3 J	1.1	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-01	UNKNOW	0.1	0.5	ug/L	4.3	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-05	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	ND	ND	0.8	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-07	UNKNOW	0.1	0.5	ug/L	4.3	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2 J	--	ND	--	--	--	--	--	--	--			
2003-11	UNKNOW	0.1	0.5	ug/L	4.3	BKG	0.2 J	0.2 J	ND	1.2	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2004-05	UNKNOW	0.1	0.5	ug/L	4.3	BKG	0.1 J	0.4 J	0.5	1.8	0.4 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2004-11	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	0.2 J	ND	0.3 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2005-05	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	ND	ND	0.6	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2005-11	UNKNOW	0.1	4	ug/L	4.3	BKG	ND	ND	ND	0.1 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-05	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	0.1 J	ND	0.2 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-11	UNKNOW	0.1	0.5	ug/L	4.3	BKG	ND	0.1 J	ND	0.5	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-05	UNKNOW	0.1	0.3	ug/L	4.3	BKG	ND	0.1 J	ND	0.4	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-11	UNKNOW	0.1	0.3	ug/L	4.3	BKG	ND	0.2 J	ND	0.3 J	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-06	UNKNOW	0.1	0.3	ug/L	4.3	BKG	ND	0.1 J	ND	0.5	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-12	UNKNOW	0.1	0.3	ug/L	4.3	BKG	0.1 J	0.2 J	ND	0.4	ND	--	--	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2009-06	UNKNOW	1	5	ug/L	4.3	BKG	ND	ND	ND	1.3 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2009-12	UNKNOW	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2010-06	UNKNOW	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2010-11	UNKNOW	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2011-05	UNKNOW	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2011-10	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	1.5 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2012-04	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2012-10	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2013-04	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2013-10	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2014-04	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2014-10	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2015-04	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2015-10	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2016-04	SW6010C	1	4	ug/L	4.3	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2016-10	SW6010C	1	4	ug/L	4.3																																	







**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2	
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Cadmium																																		
1993-07	UNKNOWN	1	1 ug/L	5	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.6	--	--	--	--	--	--	--	--
1994-12	UNKNOWN	0.14	0.5 ug/L	5	MCL	--	ND	ND	0.7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-01	UNKNOWN	0.14	0.5 ug/L	5	MCL	--	ND	ND	0.7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1995-02	UNKNOWN	0.14	0.5 ug/L	5	MCL	--	ND	ND	1	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1995-03	UNKNOWN	0.14	0.5 ug/L	5	MCL	--	ND	ND	0.7 B	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1995-09	UNKNOWN	0.14	0.5 ug/L	5	MCL	--	ND	ND	1	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1996-02	UNKNOWN	0.11	0.5 ug/L	5	MCL	0.8 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1996-04	UNKNOWN	0.11	0.5 ug/L	5	MCL	0.16 J	ND	0.15 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1996-05	UNKNOWN	0.11	0.5 ug/L	5	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1996-06	UNKNOWN	0.12	0.5 ug/L	5	MCL	0.13 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1996-10	UNKNOWN	0.12	0.5 ug/L	5	MCL	0.21 J	ND	0.16 J	0.13 J	0.35 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1997-05	UNKNOWN	0.12	0.5 ug/L	5	MCL	0.92	0.28 J	ND	0.19 J	0.18 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1997-12	UNKNOWN	0.12	0.5 ug/L	5	MCL	0.43 J	0.23 J	0.25 J	0.27 J	0.29 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1998-01	UNKNOWN	0.12	0.5 ug/L	5	MCL	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	0.26 J	0.22 J	0.27 J	--	--	--	0.53	--	--	--	--	--	--	--	--
1998-05	UNKNOWN	0.12	0.5 ug/L	5	MCL	ND	ND	ND	0.6	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1998-11	UNKNOWN	0.06	0.5 ug/L	5	MCL	1 B	ND	ND	3.8 B	1 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	ND	--	--	--
1999-05	UNKNOWN	1.5	5.01 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--
1999-12	UNKNOWN	1.5	5.01 ug/L	5	MCL	ND	ND	ND	2.06 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--
2000-05	UNKNOWN	1.5	5.01 ug/L	5	MCL	3.16 B	ND	2.14 B	2.98 B	1.68 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.85	2.7	--	--	--	
2000-11	UNKNOWN	1.5	5.01 ug/L	5	MCL	ND	ND	ND	2.82 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2001-05	UNKNOWN	1.5	5.01 ug/L	5	MCL	ND	ND	ND	2.82 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2001-12	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.1 J	0.6	0.1 J	2.4	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2002-02	UNKNOWN	0.1	0.5 ug/L	5	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	ND	ND	--	--	--	
2002-05	UNKNOWN	0.1	0.5 ug/L	5	MCL	ND	0.3 J	0.1 J	1.3	3 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2002-06	UNKNOWN	0.1	0.5 ug/L	5	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	0.2 J	ND	--	--	--	--	
2002-11	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.2 J	4.4	0.1 J	2.1	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2003-01	UNKNOWN	0.1	0.5 ug/L	5	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2003-05	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.1 J	0.3 J	ND	0.7	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2003-07	UNKNOWN	0.1	0.5 ug/L	5	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2003-11	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.4 J	0.3 J	1	0.7	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4 J	--	ND	ND	ND	--	--	--	--
2004-05	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.1 B	0.8	0.3 B	1.5	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1 J	ND	--	--	--	
2004-11	UNKNOWN	0.1	0.5 ug/L	5	MCL	ND	0.4 J	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2005-05	UNKNOWN	0.1	0.5 ug/L	5	MCL	0.1 J	0.4 J	ND	0.9	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2005-11	UNKNOWN	0.1	1 ug/L	5	MCL	ND	0.2 J	ND	0.4 J	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2006-05	UNKNOWN	0.1	0.5 ug/L	5	MCL	ND	0.1 J	ND	0.4 J	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2006-11	UNKNOWN	0.1	0.5 ug/L	5	MCL	ND	0.5 J	ND	0.3 J	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2007-05	UNKNOWN	0.1	0.3 ug/L	5	MCL	0.2 J	0.3	ND	0.4	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2007-11	UNKNOWN	0.1	0.3 ug/L	5	MCL	ND	2	ND	3.2	0.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2008-06	UNKNOWN	0.1	0.3 ug/L	5	MCL	ND	0.3	ND	0.3 J	0.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	
2008-12	UNKNOWN	0.1	0.3 ug/L	5	MCL	ND	1.5	ND	4.1	ND	--	--	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	
2009-06	UNKNOWN	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2009-12	UNKNOWN	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2010-06	UNKNOWN	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2010-11	UNKNOWN	2	5 ug/L	5	MCL	ND	ND	2.2 J	2.2 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2011-05	UNKNOWN	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2011-10	SW6010C	2	5 ug/L	5	MCL	ND	3.7 J	3.1 J	ND	ND Re 23.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2012-04	SW6010C	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2012-10	SW6010C	2	5 ug/L	5	MCL	ND	ND	ND	4.5 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2013-04	SW6010C	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2013-10	SW6010C	2	4 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2014-04	SW6010C	2	4 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2014-10	SW6010C	2	4 ug/L	5	MCL	ND	2.8 J	ND	3.3 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2015-04	SW6010C	2	4 ug/L	5	MCL	ND	ND	ND	ND	3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2015-10	SW6010C	2	5 ug/L	5	MCL	ND	2.2 J	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2016-04	SW6010C	2	5 ug/L	5	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--
2016-10	SW6010C	2	5 ug/L	5	MCL	ND	2.1 J	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--







**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2					
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>Chloroethane</b>																																						
1993-07	UNKNOWN	1	1 ug/L	3404	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1994-12	UNKNOWN	2.45	8.2 ug/L	3404	ACL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-01	UNKNOWN	2.45	8.2 ug/L	3404	ACL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-02	UNKNOWN	2.45	8.2 ug/L	3404	ACL	--	ND	ND	10.4	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-03	UNKNOWN	2.45	8.2 ug/L	3404	ACL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-09	UNKNOWN	2.45	8.2 ug/L	3404	ACL	--	ND	ND	12	ND	14.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-02	UNKNOWN	2	10 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-04	UNKNOWN	2	10 ug/L	3404	ACL	ND	ND	9.8	J	ND	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-05	UNKNOWN	2	10 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-06	UNKNOWN	2	10 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-10	UNKNOWN	2	10 ug/L	3404	ACL	ND	ND	12	ND	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-05	UNKNOWN	2	10 ug/L	3404	ACL	ND	ND	8.8	J	ND	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-12	UNKNOWN	2	10 ug/L	3404	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-01	UNKNOWN	2	10 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-05	UNKNOWN	0.84	5 ug/L	3404	ACL	ND	ND	7.31	J	ND	9.57	J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-11	UNKNOWN	0.84	1 ug/L	3404	ACL	ND	5.2	15	3.7	16	8.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1999-05	UNKNOWN	0.504	1 ug/L	3404	ACL	ND	2.22	6.13	0.65	J	5.14	8.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1999-12	UNKNOWN	0.54	1.8 ug/L	3404	ACL	ND	ND	ND	ND	8.98	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-05	UNKNOWN	0.29	0.97 ug/L	3404	ACL	ND	6.31	16.75	ND	15.51	18.96	4.3	Re	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-06	UNKNOWN	0.54	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	3.72	ND	3.85	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-11	UNKNOWN	0.54	1 ug/L	3404	ACL	ND	4.5	11.03	ND	10.23	11.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-03	UNKNOWN	0.54	1.8 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-05	UNKNOWN	0.54	1 ug/L	3404	ACL	ND	4.84	10.63	ND	10.25	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-12	UNKNOWN	0.1	0.5 ug/L	3404	ACL	ND	2.1	4.3	1	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-02	UNKNOWN	0.2	5 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-05	UNKNOWN	0.1	1 ug/L	3404	ACL	ND	3.1	5.1	ND	4.3	R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-06	UNKNOWN	0.1	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-11	UNKNOWN	0.1	0.5 ug/L	3404	ACL	ND	1.6	3.5	ND	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-01	UNKNOWN	0.1	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-05	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	2.9	4.4	ND	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-07	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-11	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3.5	6.2	ND	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-12	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2004-03	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2004-05	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3	3.9	ND	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2004-11	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3.8	7	ND	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2005-05	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3.6	3.8	ND	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2005-11	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3.6	3.5	ND	0.9	J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-05	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3.6	2.8	ND	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-11	UNKNOWN	0.2	1 ug/L	3404	ACL	ND	3	2.4	ND	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-05	UNKNOWN	0.2	1 ug/L	3.638	ACL	ND	3.9	2.9	ND	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-11	UNKNOWN	0.2	1 ug/L	3.638	ACL	ND	3.4	2.3	1.1	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-06	UNKNOWN	0.2	1 ug/L	3.638	ACL	ND	3.2	2.1	ND	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-12	UNKNOWN	0.2	1 ug/L	3.638	ACL	ND	2.6	1.6	0.3	J	1.3	1.4	0.6	J	6.4	2.2	--	--	--	--	20.2	--	1.1	J	ND	ND	0.4	J	ND	ND	ND	ND	ND	ND	ND	ND		
2009-03	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2009-06	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	2.8	1.9	ND	1.3	1.4	***	1	1.1	2.4	--	--	--	--	1	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2009-09	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2009-12	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	2.6	1.3	ND	1.2	1.4	1	J	0.8	J	2.5	--	--	--	0.6	J	--	ND	ND	ND	ND	0.3	J	--	0.3	J	ND	ND	ND				
2010-03	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2010-06	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	2.5	1.4	ND	1.1	1.1	0.6	J	0.9	J	2.4	0.6	J	1.1	ND	0.8	J	ND	ND	ND	ND	0.4	J	ND	ND	ND	ND	ND	ND	ND			
2010-11	UNKNOWN	0.2	1 ug/L	1293.4	ACL	ND	2.1	1.3	0.3	J	1.1	1.3	0.4	J	1	2.4	0.7	ND	--	ND	0.4	J	ND	ND	ND	ND	0.4	J	ND	ND	ND	ND	ND	ND	ND			
2011-05	UNKNOWN	0.2	1 ug/L	20800	ACL	ND	2.5	1.2	ND	1	J	1.3	ND	0.8	2.4	0.7	ND	0.4	J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2011-06	UNKNOWN	0.2	1 ug/L	20800	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2011-10	SW8260B	0.2	1 ug/L	20800	ACL	ND	1.9																															







Table 2  
Summary of Detected Groundwater Constituents  
Closed Laurel Valley Center Sanitary Landfill, Permit No. 251

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result		
<b>cis-1,3-Dichloropropene</b>																																					
2019-10	SW8260B	1	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2020-04	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2020-10	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2021-04	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2021-10	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2022-03	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2022-09	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2022-10	SW8260B	0.3	1 ug/L	0	LOQ	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
<b>Cobalt</b>																																					
1994-12	UNKNOWN	2	5 ug/L	939	ACL	--	ND	5	193	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-01	UNKNOWN	2	5 ug/L	939	ACL	--	ND	7 B	251	5 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-02	UNKNOWN	2	5 ug/L	939	ACL	--	ND	5 B	250	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-03	UNKNOWN	2	5 ug/L	939	ACL	--	ND	ND	244	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-09	UNKNOWN	2	5 ug/L	939	ACL	--	ND	7	197	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-02	UNKNOWN	2	10 ug/L	939	ACL	20 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-04	UNKNOWN	2	10 ug/L	939	ACL	10	20	20	150	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-05	UNKNOWN	2	10 ug/L	939	ACL	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-06	UNKNOWN	4.7	10 ug/L	939	ACL	7.7 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-10	UNKNOWN	4.7	10 ug/L	939	ACL	26	9.7 J	19	150	97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-05	UNKNOWN	4.7	10 ug/L	939	ACL	ND	ND	8.1 J	210	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-12	UNKNOWN	4.7	10 ug/L	939	ACL	ND	ND	10	360	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-01	UNKNOWN	4.7	10 ug/L	939	ACL	--	--	--	--	--	32	--	--	--	--	--	--	--	--	280	42	50	--	--	--	23	--	--	--	--	--	--	--	--	--		
1998-05	UNKNOWN	8.59	20 ug/L	939	ACL	ND	ND	ND	161	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-11	UNKNOWN	8.59	20 ug/L	939	ACL	ND	ND	ND	391	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1999-05	UNKNOWN	5.34	17.8 ug/L	939	ACL	11.7 B	12 B	7.08 B	246	27.1 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1999-12	UNKNOWN	5.34	17.8 ug/L	939	ACL	ND	ND	12 J	461	34.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2000-05	UNKNOWN	5.34	17.8 ug/L	939	ACL	ND	7.34 B	11.7 B	273	9.21 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2000-11	UNKNOWN	5.34	17.8 ug/L	939	ACL	6.35 B	ND	22.1 B	285	9.85 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2001-05	UNKNOWN	5.34	17.8 ug/L	939	ACL	ND	ND	1 J, Re 12 J	290	6.22 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2001-12	UNKNOWN	2	10 ug/L	939	ACL	ND	10	19	253	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2002-02	UNKNOWN	5	10 ug/L	939	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2002-05	UNKNOWN	2	10 ug/L	939	ACL	ND	4 J	23	163	114 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2002-06	UNKNOWN	2	10 ug/L	939	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2002-11	UNKNOWN	2	10 ug/L	939	ACL	ND	4 J	20	130	90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-01	UNKNOWN	2	10 ug/L	939	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-05	UNKNOWN	2	10 ug/L	939	ACL	ND	3 J	20	52	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-07	UNKNOWN	2	10 ug/L	939	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-11	UNKNOWN	2	10 ug/L	939	ACL	ND	4 J	21	160	9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2004-05	UNKNOWN	2	10 ug/L	939	ACL	ND	5 J	25	200	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2004-11	UNKNOWN	2	10 ug/L	939	ACL	ND	5 J	25	160	6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2005-05	UNKNOWN	2	10 ug/L	939	ACL	ND	5 J	26	100	5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2005-11	UNKNOWN	2	20 ug/L	939	ACL	ND	6 J	20	180	6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-05	UNKNOWN	2	10 ug/L	939	ACL	ND	6 J	32	121	7 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2006-11	UNKNOWN	2	10 ug/L	939	ACL	ND	6 J	36	109	9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-05	UNKNOWN	2	10 ug/L	156.5	ACL	ND	6 J	36	151	8 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2007-11	UNKNOWN	2	10 ug/L	156.5	ACL	ND	8.5 J	20.2	422 Re 414	9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-03	UNKNOWN	2	10 ug/L	156.5	ACL	--	--	--	149	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-04	UNKNOWN	2	10 ug/L	156.5	ACL	--	--	--	54.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-06	UNKNOWN	2	10 ug/L	156.5	ACL	ND	5.5 J	39.2	109	6.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2008-12	UNKNOWN	2	10 ug/L	156.5	ACL	ND	5.7 J	36.3	54.7 Re 241	6.5 J	--	--	10.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2009-06	UNKNOWN	2	4 ug/L	4.695	ACL	ND	5.7	44.6	42.8	7.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2009-12	UNKNOWN	2	4 ug/L	26	BKG	ND	6.6	49.6	72.5	15.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2010-06	UNKNOWN	2	4 ug/L	26	BKG	ND	6.7	44.2	3.3 J	19.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2010-11	UNKNOWN	2	4 ug/L	26	BKG	ND	9.4	59.2	240	14.3	--	--	--	8.1	8.1	--	--	--	--	--	--	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--		
2011-05	UNKNOWN	2	4 ug/L	26	BKG	ND	6.5	51.2 Re 47.4																													







**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>Dichlorodifluoromethane</b>																																						
1994-12	UNKNOW	2.39	5.6 ug/L	142	ACL	--	20.7	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-01	UNKNOW	2.39	5.6 ug/L	142	ACL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-02	UNKNOW	2.39	5.6 ug/L	142	ACL	--	26.6	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-03	UNKNOW	2.39	5.6 ug/L	142	ACL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-02	UNKNOW	1.1	10 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-04	UNKNOW	1.1	10 ug/L	142	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-05	UNKNOW	1.1	10 ug/L	142	ACL	ND	19	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-12	UNKNOW	1.1	10 ug/L	142	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1998-01	UNKNOW	1.1	10 ug/L	142	ACL	ND	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--			
1998-05	UNKNOW	0.63	2 ug/L	142	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1999-05	UNKNOW	0.993	1 ug/L	142	ACL	ND	124.44	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--				
1999-12	UNKNOW	0.22	0.73 ug/L	142	ACL	ND	257.5 J	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
2000-05	UNKNOW	1.05	3.51 ug/L	142	ACL	ND	ND Re	170.6 ND Re	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--				
2000-11	UNKNOW	0.22	1 ug/L	142	ACL	ND	12.32	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--				
2001-05	UNKNOW	0.22	1 ug/L	142	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--				
2001-12	UNKNOW	0.2	0.5 ug/L	142	ACL	ND	7.1	2.3	1.6	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--				
2002-02	UNKNOW	0.2	5 ug/L	142	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2 J	--	--	--	ND	ND	ND	--	--	--				
2002-05	UNKNOW	0.2	1 ug/L	142	ACL	ND	7.2	2.5	ND	0.9 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2002-06	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--						
2002-11	UNKNOW	0.2	1 ug/L	142	ACL	ND	3.2	1.6	ND	0.5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2003-01	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2003-05	UNKNOW	0.2	1 ug/L	142	ACL	ND	4.6	2.5	ND	0.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2003-07	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	0.5 J	--	0.8 J	ND	ND	ND	--	--	--				
2003-11	UNKNOW	0.2	1 ug/L	142	ACL	ND	6.3	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2003-12	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	0.6 J	ND	ND	ND	--	--	--				
2004-03	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	0.5 J	--	0.6 J	ND	ND	ND	--	--	--					
2004-05	UNKNOW	0.2	1 ug/L	142	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	ND	--	0.6 J	ND	ND	ND	--	--	--					
2004-11	UNKNOW	0.2	1 ug/L	142	ACL	ND	3.8	2.4	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	0.6 J	--	0.8 J	ND	ND	ND	--	--	--				
2005-05	UNKNOW	0.2	1 ug/L	142	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	ND	ND	ND	--	--	--					
2005-11	UNKNOW	0.2	1 ug/L	142	ACL	ND	3.5	3	ND	0.5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2006-05	UNKNOW	0.2	1 ug/L	142	ACL	ND	3	2.2	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2006-11	UNKNOW	0.2	1 ug/L	142	ACL	ND	2.3	1.5	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2007-05	UNKNOW	0.2	1 ug/L	125.2	ACL	ND	3	2.5	ND	0.4 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2007-11	UNKNOW	0.2	1 ug/L	125.2	ACL	ND	2	2.2	ND	0.4 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2008-06	UNKNOW	0.2	1 ug/L	125.2	ACL	ND	1.5	1.3	ND	0.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2008-12	UNKNOW	0.2	1 ug/L	125.2	ACL	ND	1.4	1.2	ND	0.3 J	0.7 J	ND	ND	5.7	--	--	--	--	--	--	--	--	--	--	--	3.1	0.7 J	--	0.8 J	ND	ND	ND	--	--				
2009-03	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	0.8 J	--	--	ND	ND	ND	--	--				
2009-06	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	1.9	1.7	ND	ND	0.5 J***	ND	ND	5.5	--	--	--	--	--	--	--	--	--	--	3.7	1.3	--	0.9 J	ND	ND	ND	--	--					
2009-09	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5	0.5 J	--	--	ND	ND	ND	--	--					
2009-12	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	1.7	1.5	ND	ND	ND	ND	5.4	--	--	--	--	--	--	--	--	--	--	--	4.5	0.9 J	--	1.4	ND	ND	ND	--	--					
2010-03	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.6	0.8 J	--	--	ND	ND	ND	--	--					
2010-06	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	0.9 J	ND	ND	ND	ND	ND	3.1	ND	--	--	--	--	--	--	--	--	--	--	1.8	0.4 J	ND	0.5 J	ND	ND	ND	--	--					
2010-11	UNKNOW	0.2	1 ug/L	142.27	ACL	ND	0.8 J	0.8 J	ND	ND	0.3 J	ND	ND	3.3	ND	0.3 J	--	--	--	--	--	--	--	--	1.6	0.5 J	ND	0.4 J	ND	ND	ND	--	--					
2011-05	UNKNOW	0.2	1 ug/L	368.07	ACL	ND	0.7 J	0.4 J	ND	ND	ND	ND	1.9	ND	0.3 J	0.8 J	--	--	--	--	--	--	--	--	3.4	0.8 J	ND	ND	ND	ND	ND	--	--					
2011-06	UNKNOW	0.2	1 ug/L	368.07	ACL	ND	--	--	--	--	--	--	--	--	--	0.8 J	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2011-10	SW8260B	0.2	1 ug/L	368.07	ACL	ND	0.5 J	ND	ND	ND	ND	ND	1.5	ND	0.4 J	0.4 J	ND	--	--	--	--	--	--	--	3.1	0.7 J	ND	ND	ND	ND	ND	--	--					
2012-04	SW8260B	0.2	1 ug/L	196	ACL	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	0.4 J	ND	--	--	--	--	--	--	--	2	0.6 J	ND	ND	ND	ND	ND	--	--					
2012-06	SW8260B	0.2	1 ug/L	196	ACL	ND	--	--	--	--	--	--	--	--	--	--	0.6 J	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--					
2012-10	SW8260B	0.2	1 ug/L	196	ACL	ND	0.9 J	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	0.3 J	ND	--	--	--	--	--	--	1.7	0.3 J	ND	ND	ND	ND	ND	--	--					
2013-04	SW8260B	0.2	1 ug/L	196	ACL	ND	0.63 J	ND	ND	ND	ND	ND	0.68 J	ND	ND	0.48 J	0.22 J	ND	--	--	--	--	--	--	1.32	0.67 J	ND	ND	ND	ND	ND	--	--					
2013-10	SW8260B	0.2	1 ug/L	190	ACL	ND	ND	ND	ND	ND	ND	ND	0.71 J	ND	ND	ND	ND	ND	--	--	--	--	--	--	2.47	0.62 J	ND	ND	ND	ND	ND	--	--					
2014-04	SW8260B	0.2	1 ug/L	190	ACL	ND	0.45 J	ND	ND	ND	ND	ND	0.72 J	ND	ND	ND	0.6 J	ND	ND	--	--	--	--	--	2.96	0.59 J	ND	ND	ND	ND	ND	--	--					
2014-10	SW8260B	0.2	1 ug/L	190	ACL	ND	ND	ND	ND	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	--	--	--	--	--	0.83 J	ND	ND	ND	ND	ND	ND	--	--						
2015-04	SW8260B	0.2	1 ug/L	200	ACL	ND	ND	ND	ND	ND	ND	ND	0.44 J	ND	ND	ND	ND	ND	--	--	--	--																

















**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2		
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
<b>Lead</b>																																				
1993-07	UNKNOW	1	1 ug/L	67	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	169	--	--	--	--	--	--	--	--	
1994-12	UNKNOW	1	5 ug/L	67	BKG	--	ND	ND	ND	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-01	UNKNOW	1	5 ug/L	67	BKG	--	ND	5 B	ND	5 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-02	UNKNOW	1	5 ug/L	67	BKG	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-03	UNKNOW	1	5 ug/L	67	BKG	--	23 B	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-09	UNKNOW	1	5 ug/L	67	BKG	--	5	ND	ND	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-02	UNKNOW	0.5	2 ug/L	67	BKG	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-04	UNKNOW	0.5	2 ug/L	67	BKG	67	19	7	19	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-05	UNKNOW	0.5	2 ug/L	67	BKG	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-06	UNKNOW	0.26	10 ug/L	67	BKG	0.5 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-10	UNKNOW	0.26	1 ug/L	67	BKG	31	4.8	8.6	11	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1997-05	UNKNOW	0.26	1 ug/L	67	BKG	8.2	2.6 B	2.4 B	8.5	6.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1997-12	UNKNOW	0.26	1 ug/L	67	BKG	0.6 J	0.9 J	2	ND	0.7 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-01	UNKNOW	0.26	1 ug/L	67	BKG	--	--	--	--	--	2.4	--	--	--	--	--	--	--	--	--	1.5	1.9	0.8 J	--	--	--	35	--	--	--	--	--	--	--	--	
1998-05	UNKNOW	1.05	2.5 ug/L	67	BKG	ND	ND	ND	3.1	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1998-11	UNKNOW	1.05	2.5 ug/L	67	BKG	ND	ND	ND	40	5.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1999-05	UNKNOW	0.85	2.82 ug/L	67	BKG	ND	ND	ND	0.89 J	1.9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.49 J	--	--	
1999-12	UNKNOW	0.85	2.82 ug/L	67	BKG	ND	4.05	5.8	8.19	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2000-05	UNKNOW	0.85	2.82 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2000-11	UNKNOW	0.85	2.82 ug/L	67	BKG	ND	0.95 J	ND	17.02	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-05	UNKNOW	0.85	2.82 ug/L	67	BKG	ND	ND	ND	1.45 B	2.07 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2001-12	UNKNOW	1	5 ug/L	67	BKG	ND	ND	ND	11	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-02	UNKNOW	5	10 ug/L	67	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--		
2002-05	UNKNOW	8	10 ug/L	67	BKG	ND	ND	ND	11 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2002-06	UNKNOW	8	10 ug/L	67	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	
2002-11	UNKNOW	8	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-01	UNKNOW	8	10 ug/L	67	BKG	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2003-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2003-07	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	
2004-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2004-11	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2005-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2005-11	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2006-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2006-11	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2007-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2007-11	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2008-06	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2008-12	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2009-06	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2009-12	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2010-06	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2010-11	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2011-05	UNKNOW	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2011-10	SW6010C	6	10 ug/L	67	BKG	ND	6.6 J	6.3 J	18.7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2012-04	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2012-10	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2013-04	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2013-10	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2014-04	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2014-10	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2015-04	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2015-10	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2016-04	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2016-10	SW6010C	6	10 ug/L	67	BKG	ND	ND	ND	ND																											















**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID					MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2						
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result					
<b>Naphthalene</b>																																							
2002-06	UNKNOWN	0.1	1 ug/L	626	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2003-01	UNKNOWN	0.1	1 ug/L	626	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2003-05	UNKNOWN	0.3	1 ug/L	626	ACL	ND	ND	ND	ND	0.3 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	ND	ND	--	--
2003-07	UNKNOWN	0.3	1 ug/L	626	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	ND	ND	ND	--	--	
2004-05	UNKNOWN	0.3	1 ug/L	626	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2005-05	UNKNOWN	0.3	1 ug/L	626	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2006-05	UNKNOWN	0.3	1 ug/L	626	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2007-05	UNKNOWN	0.3	1 ug/L	2.33	ACL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5 J	ND	ND	--	--	
2008-06	UNKNOWN	0.3	1 ug/L	2.33	ACL	ND	ND	ND	ND	0.3 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5 J	ND	ND	--	--
2009-06	UNKNOWN	0.05	0.05 ug/L	0.0886	ACL	ND	ND	ND	ND	0.46 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	ND	ND	--	--	
2010-06	UNKNOWN	0.05	0.05 ug/L	0.0886	ACL	ND	ND	ND	ND	0.25 ND Re	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	ND	ND	--	--	
2011-05	UNKNOWN	0.06	0.05 ug/L	0.1432	ACL	ND	ND	ND	ND	0.34 ND Re	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	ND	ND	--	--	
2011-10	SW8260B	0.3	1 ug/L	0.1432	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2012-04	SW8270D	0.3	1 ug/L	0.1432	ACL	ND	ND	ND	ND	0.99	1.5 ND	0.3 J	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--
2012-06	SW8270D	0.3	1 ug/L	0.1432	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2012-10	SW8260B	0.3	1 ug/L	0.1432	ACL	ND	ND	ND	ND	1.4 Re	1.3 ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2013-04	SW8270D	0.2	1 ug/L	0.1432	ACL	ND	ND	ND	ND	ND	ND	0.25 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2013-10	SW8260B	0.2	1 ug/L	0.14	ACL	ND	ND	ND	ND	0.86 J	1.28 ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2014-04	SW8260B	0.2	1 ug/L	0.14	ACL	ND	ND	ND	ND	ND	0.94 C, 0.47 C, 0.33 C, 0.28 J	0.46 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2014-10	SW8260B	0.2	1 ug/L	0.14	ACL	ND	ND	ND	ND	ND	0.88 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2015-04	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.85 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2015-10	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.88 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2016-04	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.51 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2016-10	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.42 J	0.51 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2017-04	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.37 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2017-10	SW8260B	0.2	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	0.72 J	0.42 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--
2018-04	SW8270D	1.1	11 ug/L	0.17	ACL	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2018-09	SW8260B	0.8	1 ug/L	0.17	ACL	ND	ND	ND	ND	1.51	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2019-04	UNKNOWN	1	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2019-10	SW8260B	1	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2020-04	SW8260B	0.8	1 ug/L	0.17	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.65	10.4 ug/L	0.17	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2020-04	SW8270D	3.68	10.5 ug/L	0.17	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2020-04	SW8270D	3.72	10.6 ug/L	0.17	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2020-04	SW8270D	3.76	10.8 ug/L	0.17	ACL	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2020-04	SW8270D	3.8	10.9 ug/L	0.17	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2020-10	SW8260B	0.8	1 ug/L	0.17	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2021-03	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2021-04	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2021-04	SW8270D	3.5	10 ug/L	0.12	ACL	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2021-10	SW8260B	0.8	1 ug/L	0.12	ACL	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2021-10	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-03	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-03	SW8270D	0.1	0.1 ug/L	0.12	ACL	0.11 J+	0.11 J+	0.13 J+	ND	0.15 J+	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.12	ND	ND	--	--	
2022-09	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-10	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2022-10	SW8260B	0.8	1 ug/L	0.12	ACL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
<b>Nickel</b>																																							
1994-12	UNKNOWN	0.2	5 ug/L	100	MCL	--	ND	10	9 B	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1995-01	UNKNOWN	0.2	5 ug/L	100	MCL	--	ND	9 B	9 B	7 B	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-02	UNKNOWN	0.2	5 ug/L	100	MCL	--	ND	6	6	17																													







**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>o-Dichlorobenzene / 1,2-Dichlorobenzene</b>																																						
1994-12	UNKNOW	0.45	1.5 ug/L	600	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-01	UNKNOW	0.45	1.5 ug/L	600	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-02	UNKNOW	0.45	1.5 ug/L	600	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-03	UNKNOW	0.45	1.5 ug/L	600	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1995-09	UNKNOW	0.45	1.5 ug/L	600	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1996-04	UNKNOW	0.26	5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1996-05	UNKNOW	0.26	5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1996-06	UNKNOW	0.26	5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
1996-10	UNKNOW	0.26	5 ug/L	600	MCL	ND	ND	ND	ND	1.5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1997-12	UNKNOW	0.26	5 ug/L	600	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1998-01	UNKNOW	0.26	5 ug/L	600	MCL	ND	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	0.58 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--			
1998-05	UNKNOW	0.17	2 ug/L	600	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1998-11	UNKNOW	0.17	1 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--	--			
1999-05	UNKNOW	0.138	1 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	--	--			
1999-12	UNKNOW	0.12	0.4 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-05	UNKNOW	0.4	1.33 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2000-06	UNKNOW	0.12	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--			
2000-11	UNKNOW	0.12	1 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-03	UNKNOW	0.12	0.4 ug/L	600	MCL	ND	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-05	UNKNOW	0.12	1 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2001-12	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-02	UNKNOW	1	10 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	--			
2002-05	UNKNOW	0.1	0.5 ug/L	600	MCL	ND	ND	ND	ND	ND R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2002-06	UNKNOW	0.1	0.5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--			
2002-11	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	0.3 J	ND	0.5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-01	UNKNOW	0.1	0.5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2003-05	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	ND	ND	0.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2003-07	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--			
2003-11	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	ND	ND	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--			
2003-12	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2004-03	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2004-05	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2004-11	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2005-05	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	0.2 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2005-11	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	0.2 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2006-05	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	0.3 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2006-11	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.3 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2007-05	UNKNOW	0.2	0.5 ug/L	600	MCL	ND	ND	0.3 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2007-11	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.3 J	ND	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--			
2008-06	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.4 J	ND	0.3 J	--	--	--	--	--	--	--	--	--	--	--	--	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2008-12	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.5 J	ND	0.3 J	0.3 J	ND	--	ND	--	--	--	--	--	--	--	--	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2009-03	UNKNOW	0.2	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2009-06	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.6 J	ND	0.5 J	0.5 J***	ND	0.3 J	ND	--	--	--	--	--	--	--	--	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2009-09	UNKNOW	0.2	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2009-12	UNKNOW	0.2	1 ug/L	600	MCL	ND	0.2 J	0.6 J	ND	0.6 J	0.5 J	ND	0.4 J	0.2 J	--	--	--	--	--	--	--	--	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2010-03	UNKNOW	0.2	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2010-06	UNKNOW	0.2	1 ug/L	600	MCL	ND	0.2 J	0.7 J	ND	0.6 J	0.5 J	ND	0.4 J	ND	ND	--	--	--	--	--	--	--	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2010-11	UNKNOW	0.2	1 ug/L	600	MCL	ND	0.2 J	0.7 J	ND	0.4 J	0.4 J	ND	0.5 J	ND	0.2	ND	--	--	--	--	--	--	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2011-05	UNKNOW	0.2	1 ug/L	600	MCL	ND	ND	0.7 J	ND	0.4 J	0.4 J	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2011-06	UNKNOW	0.2	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--		
2011-10	SW8260B	0.2	1 ug/L	600	MCL	ND	ND	0.9 J	ND	0.5 J	0.3 J	ND	0.7 J	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2012-04	SW8260B	0.2	1 ug/L	600	MCL	ND	0.2 J	0.9 J	ND	0.5 J	0.4 J	ND	0.5 J	0.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2012-06	SW8260B	0.2	1 ug/L	600	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--		
2012-10	SW8260B	0.2	1 ug/L	600	MCL	ND	0.2 J	1 J</																														





























**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID						MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2				
Method	DL	QL	Unit	GPS	Type	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result			
<b>Trichlorofluoromethane (CFC-11)</b>																																						
2019-10	SW8260B	1	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2020-04	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2020-10	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2021-04	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2021-10	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2022-03	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2022-09	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2022-10	SW8260B	0.8	1 ug/L	5200	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
<b>Vanadium</b>																																						
1994-12	UNKNOWN	3	10 ug/L	110	ACL	ND	ND	ND	ND	169	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1995-01	UNKNOWN	3	10 ug/L	110	ACL	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1995-02	UNKNOWN	3	10 ug/L	110	ACL	ND	ND	ND	ND	64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1995-03	UNKNOWN	3	10 ug/L	110	ACL	ND	ND	ND	ND	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1995-09	UNKNOWN	3	10 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1996-02	UNKNOWN	8	40 ug/L	110	ACL	50 B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1996-04	UNKNOWN	1.4	8 ug/L	110	ACL	38	41	28	36	130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1996-05	UNKNOWN	1.4	8 ug/L	110	ACL	9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1996-06	UNKNOWN	1.4	4 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1996-10	UNKNOWN	1.4	4 ug/L	110	ACL	120	26	38	43	660	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1997-05	UNKNOWN	1.4	4 ug/L	110	ACL	ND	3.3 J	3 J	4	43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1997-12	UNKNOWN	1.4	4 ug/L	110	ACL	ND	3.8 J	16	14	73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1998-01	UNKNOWN	1.4	4 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	7.7 ND	ND	ND	ND	ND	33	ND	ND	ND	ND	ND	ND	ND	ND			
1998-05	UNKNOWN	4.25	20 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1998-11	UNKNOWN	4.25	20 ug/L	110	ACL	ND	ND	ND	ND	36.3	35.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1999-05	UNKNOWN	6.14	20.5 ug/L	110	ACL	ND	ND	ND	ND	107	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
1999-12	UNKNOWN	6.14	20.5 ug/L	110	ACL	ND	ND	9.9 J	6.54 J	185	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2000-05	UNKNOWN	6.14	20.5 ug/L	110	ACL	ND	13.4 J	29.6 ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2000-11	UNKNOWN	6.14	20.5 ug/L	110	ACL	ND	13.6 J	62.5	13.4 J	10.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2001-05	UNKNOWN	6.14	20.5 ug/L	110	ACL	ND	9.63 J	74.6	23.5	25.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2001-12	UNKNOWN	2	10 ug/L	110	ACL	ND	19.5 J	9	83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2002-02	UNKNOWN	5	10 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2002-05	UNKNOWN	2	10 ug/L	110	ACL	ND	8 J	15 ND	504 R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2002-06	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2002-11	UNKNOWN	2	10 ug/L	110	ACL	ND	3 J	5 J	ND	310	62 Re	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2003-01	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2003-05	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2003-07	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2003-11	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2004-05	UNKNOWN	2	10 ug/L	110	ACL	ND	2 J	5 J	2 J	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2004-11	UNKNOWN	2	10 ug/L	110	ACL	ND	2 J	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2005-05	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2005-11	UNKNOWN	2	20 ug/L	110	ACL	ND	ND	ND	ND	7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2006-05	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	5 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2006-11	UNKNOWN	2	10 ug/L	110	ACL	ND	ND	ND	ND	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2007-05	UNKNOWN	2	10 ug/L	15.65	ACL	ND	ND	ND	ND	6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2007-11	UNKNOWN	2	10 ug/L	15.65	ACL	ND	ND	ND	ND	5.2J,Re	15.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2008-06	UNKNOWN	2	10 ug/L	15.65	ACL	ND	ND	ND	ND	6.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2008-12	UNKNOWN	2	10 ug/L	15.65	ACL	ND	ND	ND	ND	5.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2009-06	UNKNOWN	2	10 ug/L	109.55	ACL	ND	ND	ND	ND	6.4 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2009-12	UNKNOWN	2	10 ug/L	109.55	ACL	ND	ND	ND	ND	6.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2010-06	UNKNOWN	2	10 ug/L	109.55	ACL	ND	ND	15.3 ND	29.5	ND																												



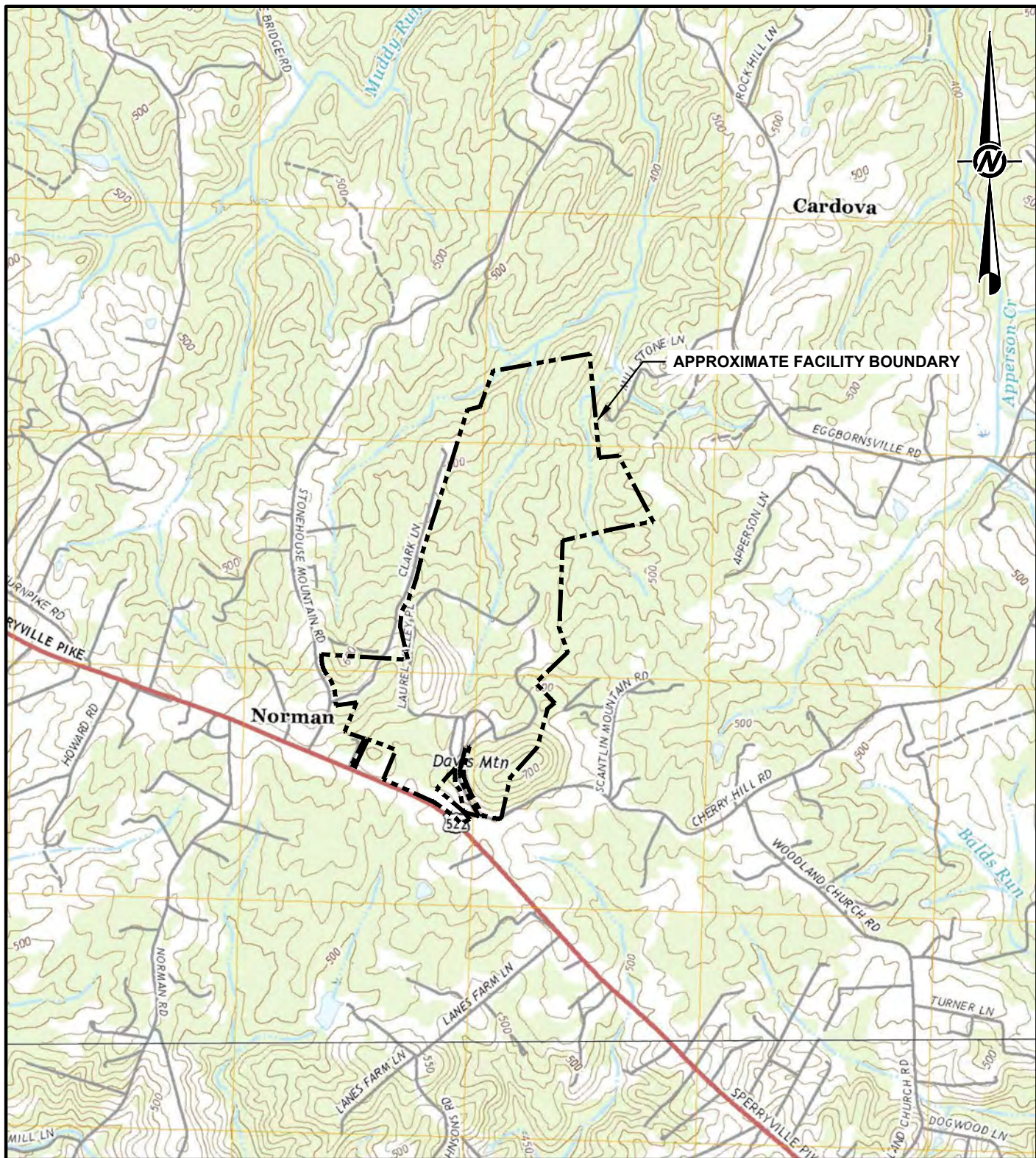


**Table 2**  
**Summary of Detected Groundwater Constituents**  
**Closed Laurel Valley Center Sanitary Landfill, Permit No. 251**

Sample ID	Method	DL	QL	Unit	GPS	Type	MW-20	MW-1B	MW-2B	MW-3A	MW-4	MW-6	MW-X1	CLF-1	MW-1C	MW-1D	MW-1E	MW-1F	MW-1G	MW-1H	MW-1I	MW-2A	MW-3	MW-5	MW-X2	MW-X2D	CLF-15A	PZ-4E	CLF-S1	CLF-S3	Equip. Blank	Field Blank	Trip Blank	Trip Blank CA	Trip Blank CA2			
							Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
<b>Xylenes (total)</b>																																						
1993-07	UNKNOWN	1	1	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1994-12	UNKNOWN	2.06	2.06	ug/L	10000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	
1995-01	UNKNOWN	2.06	2.06	ug/L	10000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-02	UNKNOWN	2.06	2.06	ug/L	10000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-03	UNKNOWN	2.06	2.06	ug/L	10000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1995-09	UNKNOWN	15	15	ug/L	10000	MCL	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1996-02	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-04	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	ND	ND	ND	8.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-05	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-06	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1996-10	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	ND	ND	ND	9.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-05	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1997-12	UNKNOWN	1.8	5	ug/L	10000	MCL	ND	ND	ND	ND	4.9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-01	UNKNOWN	1.8	5	ug/L	10000	MCL	--	--	--	--	--	5.2 J	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	ND	--	--	--	--	--	--	--	--	--		
1998-05	UNKNOWN	0.48	6	ug/L	10000	MCL	ND	ND	ND	ND	5.82 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1998-11	UNKNOWN	0.26	1	ug/L	10000	MCL	ND	ND	ND	ND	7.5 ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND		
1999-05	UNKNOWN	0.259	1	ug/L	10000	MCL	ND	ND	ND	ND	2.17 1.59 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	--		
1999-12	UNKNOWN	0.68	2.25	ug/L	10000	MCL	ND	ND	ND	ND	3.38 ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2000-05	UNKNOWN	0.7	2.34	ug/L	10000	MCL	ND	ND	ND	ND	9.75 9.38 12.10 Re	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3	ND	ND	--	--		
2000-06	UNKNOWN	0.68	1	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	ND	--	--	--	--	ND	ND	ND	--	--		
2000-11	UNKNOWN	0.68	1	ug/L	10000	MCL	ND	ND	ND	ND	10.37 7.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2001-03	UNKNOWN	0.68	2.25	ug/L	10000	MCL	--	--	--	--	--	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2001-05	UNKNOWN	0.68	1	ug/L	10000	MCL	ND	ND	ND	ND	12.23 3.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2001-12	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	0.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--	
2002-02	UNKNOWN	0.4	10	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9 J	--	--	--	--	--	--	ND	ND	ND	--	--		
2002-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	12.8 R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	--	--		
2002-06	UNKNOWN	0.3	3	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9 B	--	--	--	--	0.7 J	1 J	ND	ND	--			
2002-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	8.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	--			
2003-01	UNKNOWN	0.3	3	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	--			
2003-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	--			
2003-07	UNKNOWN	0.3	3	ug/L	10000	MCL	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.8 J	ND	--	ND	ND	ND	ND	ND	ND	ND	--			
2003-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	--			
2003-12	UNKNOWN	0.3	3	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9 J	ND	--	ND	ND	ND	ND	ND	ND	ND	--			
2004-03	UNKNOWN	0.3	3	ug/L	10000	MCL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 B	ND	--	ND	ND	0.4 J	ND	ND	ND	ND	--			
2004-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	10	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1 J	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	--		
2004-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	1.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3 J	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	--		
2005-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	0.8 J	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6 J	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	--		
2005-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2006-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	1.5 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2006-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	1.4 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2007-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	1.7 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2007-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	3.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2008-06	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	6.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2008-12	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	5.4 2.3 J 1.1 J	0.3 J	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2009-03	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2009-06	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	7.1 5.4 *** 2.1 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2009-09	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	--		
2009-12	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	4.3 4 1.1 J	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2010-03	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2010-06	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	9.7 2.3 B	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2010-11	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	7.4 2 J	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	--		
2011-05	UNKNOWN	0.3	3	ug/L	10000	MCL	ND	ND	ND	ND	8 2.4 J	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	0.3 J	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	--		
2011-06	UNKNOWN	0.3	3	ug/L	10000	MCL	--	ND	--																													

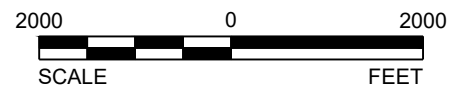
## DRAWINGS





**REFERENCE**

BASE MAP CONSISTS OF 7.5-MINUTE USGS TOPOGRAPHIC QUADRANGLE NAMED CULPEPER WEST AND CASTLETON, VIRGINIA, DATED 2019.



CLIENT  
CULPEPER COUNTY

PROJECT  
LAUREL VALLEY CENTER SANITARY LANDFILL  
CULPEPER COUNTY, VIRGINIA

CONSULTANT

YYYY-MM-DD 2022-12-12

DESIGNED SIB

PREPARED SIB

REVIEWED MGW

APPROVED MGW

TITLE  
**SITE LOCATION MAP**

PROJECT NO.  
20-14572921

REV.  
0

DRAWING  
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS/A







## APPENDIX I

### ANNUAL REPORT SUBMISSION CHECKLIST (FORM ARSC-01)



**Annual Report Submission Checklist – ARSC-01**

Item No.	INCLUDED IN REPORT	YES	NO	Not Apply
1	Signature of qualified groundwater professional	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Solid waste facility permit number & facility name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Name of current owner/operator & type of facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Dates LF began operations and was deemed closed (if applicable)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Date of last waste receipt (if applicable) [2.b]	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Identified if site is lined or unlined [2.b]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Identified waste disposal method (trench fill/area fill/etc.) [2.b]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Total site acreage, and acreage used for waste disposal [2.b]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Adjoining land use described including any aquifer users [2.c]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Topographic map included as <i>Figure 1</i> [2.a]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<i>Drawing 1</i> shows facility location, includes a bar scale, and north arrow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Discuss the type, name & age of the geologic unit(s) on site [2.d]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Description of general site topography [2.d]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Description of the nearest permanent water body, perennial stream, etc. [2.d]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Description of the uppermost aquifer [2.d]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Description of the aquifer type (confined vs unconfined) [2.d]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Date facility entered detection or phase I monitoring [2.b]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Date facility entered assessment or phase II monitoring [2.b]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Identified if the facility monitors groundwater under a variance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Identified the dates of any groundwater variance approvals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Approval date for wetlands demonstration (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Identified all upgradient and downgradient monitoring wells [2.e]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Identified if all monitoring wells were sampled during the year [2.e]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Identified reasons for failure to sample (if applicable) [2.e]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Identified if any monitoring wells have been abandoned [2.e]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Identified if any wells require replacement [2.e]	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Included network performance certification statement [2.e]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	Identified groundwater sampling dates during past year [2.f]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	Included site plan drawing as <i>Figure 2</i> [2.h]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	<i>Drawing 2</i> contains current topographic contours	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31	<i>Drawing 2</i> contains facility and waste mgmt unit boundaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	<i>Drawing 2</i> includes all monitoring wells	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	<i>Drawing 2</i> includes potentiometric surface contours	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	<i>Drawing 2</i> includes groundwater flow direction arrows	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	<i>Drawing 2</i> includes all surface water bodies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	<i>Drawing 2</i> includes all structures on site, a bar scale, and north arrow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37	Listing of groundwater elevation readings in past year [2.h]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	Table of historical groundwater elevation data as <i>Appendix A</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	Calculated rate of groundwater flow (distance/year) [2.h]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	Flow rate calculations included as <i>Appendix B</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Identified the name of the analytical laboratory [2.h]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	Identified whether the lab is DCLS Certified	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	Identified type of analytical methods used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Identified those constituents found above the LOD and LOQ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Identified if verification sampling was used during any event	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Annual Report Submission Checklist - ARSC-01  
 - continued -**

<b>Item No.</b>	<b>INCLUDED IN REPORT</b>	<b>YES</b>	<b>NO</b>	<b>Not Apply</b>
46	Identified statistical methods used to analyze groundwater data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	Identified any SSI's noted during prior year of monitoring	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	Table of prior detected constituent concentrations in each well [2.g]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	Field data sheet copies included as <i>Appendix C</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	Laboratory result sheets/certificates of analysis as CDROM in <i>Appendix D</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
51	Included historical summary of laboratory results in <i>Appendix E</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52	Full list of References	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53	Copy of this QA/QC checklist	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Notes:**

Item No.

- (10) Topographic map is presented on Drawing 1.
- (29) Site plan is presented as Drawing 2.
- (37-38) Historical groundwater elevation data are provided in Table 1.
- (40) Groundwater flow rate calculations are provided in the report text.
- (48) Detected constituent concentrations are summarized in Table 2.
- (49) Field data sheets for the March and October 2022 sampling events are provided in Appendix II.
- (50) Laboratory analytical data for the March and October 2022 sampling events are provided in Appendix III.
- (51) Historical analytical results for the Facility are summarized in Table 2.

**APPENDIX II**

**FIELD DATA SHEETS—**  
**1<sup>ST</sup> & 2<sup>ND</sup> SEMI-ANNUAL 2022 MONITORING EVENTS**





# MICROPURGE SAMPLING LOG

Date: 3/28/22  
~~3/26/22~~  
 Weather: Sunny, 40s

Project Name: Laurel Valley Sanitary Landfill Project No./Task No.: GL2014572921  
 Event: 1SA2022 GW Event Sampler(s): D. Thomas / M. Knez  
 Well ID: MW-1B Field Calibration Completed: 0715 ~~3/26/22~~ 3/28/22  
 Well Diameter: 2.0 inches Initial Depth to Water: 4.08 feet  
 Depth to Bottom: — feet Water Column Thickness: — feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI Pr: DSS 16110248  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ —  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>25°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1255	5.47	649	30.48	0.79	11.6	99.2	4.99	~300
1258	5.51	649	10.52	0.57	11.6	107.3	5.05	~300
1301	5.60	648	9.20	0.48	11.7	95.0	5.10	~300
1304	5.54	648	4.28	0.45	11.6	108.3	5.05	~300
1307	5.54	648	7.49	0.42	11.6	114.0	4.91	~300
1310	5.54	647	4.25	0.41	11.5	115.3	4.92	~300 ml
1315	<del>SAMPLED</del>							
* 1340	5.58	649	17.38	0.59	11.7	118.8	5.09	~320

Purge Cycle (End): 276 <sup>2624</sup> seconds @ 22 psi Flow Rate (ml/min End): ~320  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 23.95 (0.006) = ~0.14  
 Total Purge Volume (Gallons): ~2.5 Purge Water Management: On Site Containment

Purge Observations (color, odor, turbidity, sheen): Purge time: 1250 \* : Paused due to visible particles turbidity at 1330 resumed at 1335 clear grab sample

Sample Time: 1315 Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: Cobalt, RSK175, Sulfide, Cyanide, SWFOI, SWFOH

Other Observations / Equipment Operation Problems:  

Sampler Signature: M. Knez Date: 3/26/22 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 4/1/22









# MICROPURGE SAMPLING LOG

Date: ~~3/27/22~~ 3/29/22

Weather: Sunny, 30's

Project Name: Laurel Valley Sanitary Landfill Project No./Task No.: GL2014572921  
 Event: 1SA2022 GW Event Sampler(s): D. Thomas / M. Knez  
 Well ID: MW-1E Field Calibration Completed: 0720 ~~3/27/22~~ 3/29/22  
 Well Diameter: 2.0 inches Initial Depth to Water: 17.04 feet  
 Depth to Bottom: — feet Water Column Thickness: — feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDSS 11102715  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ —  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>pc</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1140	6.69	3199	239.52	0.46	11.7	-118.9	17.39	~200
1145	6.61	2882	104.09	0.42	11.8	-108.6	17.38	~200
1150	6.56	2728	239.21	0.40	11.7	-108.3	17.41	~200
1155	6.55	2646	25.24	0.38	11.8	-111.3	17.35	~200
1200	6.55	2641	14.41	0.50	11.3	-110.4	17.39	~200
1205	6.58	2625	11.21	0.48	11.1	-111.1	17.36	~200
1210	6.57	2615	11.65	0.43	11.4	-113.3	17.29	~200
1215	6.57	2630	11.59	0.49	11.8	-113.9	17.37	~200
1220	6.58	2638	11.35	0.55	11.8	-108.9	17.41	~200
1225	6.58	2623	10.81	0.40	11.8	-110.4	17.37	~200
1230	6.58	2608	12.61	0.35	12.0	-113.6	17.39	~200
1235	6.57	2580	10.11	0.35	12.0	-114.6	17.32	~200
1240	6.57	2577	9.26	0.33	12.1	-115.3	17.35	~200
1245			SAMPLE					
1250	6.57	2511	9.65	0.57	11.9	-103.3	17.38	~200

Purge Cycle (End): 50810 seconds @ 63 psi Flow Rate (mL/min End): ~200  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.58  
 Total Purge Volume (Gallons): 3.5 Purge Water Management: On Site Containment  
 Purge Observations (color, odor, turbidity, sheen): Purge time 1125  
clear grab sample

Sample Time: 1245 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: RSK 175, Cobalt

Other Observations / Equipment Operation Problems: \_\_\_\_\_

Sampler Signature: M. Knez Date: 3/29/22 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 4/1/22













# MICROPURGE SAMPLING LOG

3/28/22

Date: 3/26/22 ~~BT~~

Weather: Sunny, 40's

Project Name: Laurel Valley Sanitary Landfill Project No./Task No.: GL2014572921

Event: 1SA2022 GW Event Sampler(s): D. Thomas / M. Knez

Well ID: MW-2B Field Calibration Completed: 0715 3/26/22 ~~BT~~ 3/28/22

Well Diameter: 2.0 inches Initial Depth to Water: 18.15 feet

Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet

- Equipment Used:
- WL Indicator
  - Turbidity Meter
  - Air Tank
  - Dedicated Bladder Pump
  - YSI 451 PRODS 1000743 Peristaltic Pump
  - Compressor
  - Non-dedicated BP
  - In-Situ \_\_\_\_\_
  - MP-10 Controller Box
  - MP-15 Controller Box
  - \_\_\_\_\_

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>25°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1445	5.78	2173	5.81	0.60	13.7	-23.9	19.11	~375
1448 <del>1453</del> MK	5.79	2149	4.99	0.56	13.7	-25.6	19.15	~375
1451 <del>1455</del> MK	5.79	2136	4.16	0.50	13.7	-26.2	19.19	~375
1454 <del>1500</del> MK	5.79	2120	3.27	0.47	13.6	-26.6	19.25	~375
1500 <del>1505</del> MK	_____	_____	_____	_____	_____	_____	_____	_____
1530	5.81	2183	1.38	0.62	13.6	-26.4	20.88	~375

Purge Cycle (End): 2783 seconds @ 20 psi Flow Rate (ml/min End): ~375

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/21.44

ft): Total Purge Volume (Gallons): ~2.5 Purge Water Management: On Site Containment

Purge Observations (color, odor, turbidity, sheen): Purge time = 1440

Sample Time: 1500 Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals

VSWMR Table 3.1 Column B

Other: cobalt, Sulfide, Cyanide, SW8011, RSK175

Other Observations / Equipment Operation Problems: \_\_\_\_\_

Sampler Signature: M. Knez Date: 3/26/22 Page i of 1

QA/QC Signature: [Signature] Date: 4/1/22





















# MICROPURGE SAMPLING LOG

Date: 3/30/22  
Weather: cloudy, 40's

Project Name: Laurel Valley Sanitary Landfill Project No./Task No.: GL2014572921  
 Event: 1SA2022 GW Event Sampler(s): D. Thomas / M. Knez  
 Well ID: CLF-15A Field Calibration Completed: 0840 3/30/22  
 Well Diameter: 2.0 inches Initial Depth to Water: 19.68 feet  
 Depth to Bottom: — feet Water Column Thickness: — feet  
 Equipment Used:  W/ Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 VSI PDS 16K102743  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>25°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1140	6.50	303.2	0.74	2.66	12.3	114.2	18.87	~300
1143	6.53	304.5	0.90	2.65	12.4	110.5	18.99	~300
1146	6.57	304.9	0.77	2.62	12.4	110.0	18.98	~300
1149	6.52	287.8	0.71	2.42	12.4	110.0	18.95	~300
1152	6.50	278.1	0.73	2.26	12.4	110.6	19.04	~300
1155	6.49	265.1	0.69	2.08	12.5	111.2	19.07	~300
1158	6.46	256.1	0.73	1.93	12.5	112.4	19.13	~300
1201	6.46	252.7	0.81	1.89	12.5	112.9	19.15	~300
1204	6.44	240.8	0.92	1.72	12.6	113.9	19.21	~300
1207	6.44	238.1	0.83	1.66	12.5	115.5	19.25	~300
1210	6.43	230.0	0.82	1.55	12.5	116.5	19.27	~300
1213	6.42	226.9	0.92	1.50	12.5	117.4	19.29	~300
1216	6.42	225.5	0.80	1.48	12.5	118.6	19.31	~300
1220	SAMPLED							
1225	6.42	217.6	0.85	1.57	12.6	119.5	19.44	~300

Purge Cycle (End): 2228 seconds @ ~40 psi Flow Rate (ml/min End): ~300  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —  
 Total Purge Volume (Gallons): ~5.0 Purge Water Management: On Site Containment

Purge Observations (color, odor, turbidity, sheen): Purge time 1131  
clear grab sample

Sample Time: 1220 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B

Other: Alkalinity, chloride, Sulfate, Nitrate, Sulfides, Methane

Other Observations / Equipment Operation Problems: Fe<sup>2+</sup>: 1mg/L

Sampler Signature: M. Knez Date: 3/30/22 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 4/1/2022





# MICROPURGE SAMPLING LOG

Date: 3/30/22  
 Weather: Sunny, 30's

Project Name: Laurel Valley Sanitary Landfill Project No./Task No.: GL2014572921  
 Event: 1SA2022 GW Event Sampler(s): D. Thomas / M. Knez  
 Well ID: MW-X2 Field Calibration Completed: 0840 3/30/22  
 Well Diameter: 2.0 inches Initial Depth to Water: 5.67 feet  
 Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDS 16K102743  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ \_\_\_\_\_  MP-10 Controller Box  MP-15 Controller Box  \_\_\_\_\_

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0945	5.08	412.6	1.93	3.15	9.2	219.1	6.70	~250
0950	5.11	413.0	1.42	2.82	9.1	220.0	6.73	~250
0955	5.16	414.3	1.04	2.34	9.1	203.3	6.89	~250
1000	5.25	415.2	0.89	1.73	9.1	170.0	6.81	~250
1005	5.32	414.7	0.84	1.39	9.1	170.6	6.83	~250
1010	5.39	413.7	0.76	1.08	9.2	121.0	6.85	~250
1015	5.45	412.7	0.76	0.90	9.2	103.1	6.95	~250
1020	5.50	411.5	0.77	0.77	9.1	86.7	6.86	~250
1025	5.55	411.1	0.78	0.66	9.2	72.7	6.92	~250
1030	5.58	411.6	0.83	0.61	9.2	65.5	6.94	~250
1035	5.61	412.8	0.81	0.57	9.2	58.6	6.79	~250
1040	5.64	413.2	0.80	0.53	9.2	52.0	6.87	~250
1045	5.67	413.7	0.77	0.50	9.2	45.8	6.80	~250
1050	5.69	416.0	0.78	0.48	9.2	42.5	6.81	~250
1055	SAMPLE							
1102	5.73	419.5	1.06	1.33	9.1	43.3	6.89	~250

Purge Cycle (End): 2585 seconds @ 20 psi Flow Rate (ml/min End): ~250  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): Total Purge Volume (Gallons): ~6.0 Purge Water Management: On Site Containment

Purge Observations (color, odor, turbidity, sheen): None time 0936  
clear grab sample

Sample Time: 1055 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B

Other: Alkalinity, Chloride, Nitrate (NO3), Sulfate, Sulfide, Methane

Other Observations / Equipment Operation Problems: Fe<sup>2+</sup> : 1mg/L

Sampler Signature: M. Knez Date: 3/30/22 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 4/1/22



























**GOLDER**  
MEMBER OF WSP

**MICROPURGE SAMPLING LOG**

Date: 10/18/22  
Weather: Sunny, 50's

Project Name: Laurel Valley LE Project No./Task No.: 20145729  
Event: 2SA22 GW Sampler(s): M. Knez  
Well ID: MW-3A Field Calibration Completed: 10/18/22 @ 1035  
Well Diameter: 2.0 inches Initial Depth to Water: 5 Top feet  
Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDSS 18K10931  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ \_\_\_\_\_  MP-10 Controller Box  MP-15 Controller Box  \_\_\_\_\_

RETURNED  
10/19/22 →  
RETURNED  
10/20/22 →

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>25°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1345	_____	_____	Well Dry	_____	_____	_____	_____	_____
1430	_____	_____	SAMPLED	_____	_____	_____	_____	_____
1205	_____	_____	WELL DRY	_____	_____	_____	_____	_____
1152	_____	_____	SAMPLED	_____	_____	_____	_____	_____
1201	_____	_____	WELL DRY	_____	_____	_____	_____	_____
1135	_____	_____	SAMPLED	_____	_____	_____	_____	_____
1140	_____	_____	switch to	_____	_____	_____	_____	_____
1148	_____	_____	well DRY	_____	_____	_____	_____	_____
1420	_____	_____	SAMPLED	_____	_____	_____	_____	_____
1425	_____	_____	well DRY	_____	_____	_____	_____	_____
1458	_____	_____	SAMPLED	_____	_____	_____	_____	_____

Purge Cycle (End): 25/5 seconds @ 20 psi Flow Rate (ml/min End): ~20  
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): \_\_\_\_\_  
Total Purge Volume (Gallons): \_\_\_\_\_ Purge Water Management: \_\_\_\_\_ on site containment  
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample - only filled some bottles; no ambers  
Purge Time: 1340

Sample Time: 10/19/22 @ 1130 Field Filtered (0.45um):  Yes  No  
Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: Co, RSK 175, Sulfide, Cyanide, SW 8011  
Other Observations / Equipment Operation Problems: DTP: 12.46'

Sampler Signature: [Signature] Date: 10/20/22 Page 1 of 1  
QA/QC Signature: [Signature] Date: 10/24/22





























**GOLDER**  
MEMBER OF WSP

**MICROPURGE SAMPLING LOG**

Date: 10/18/22  
Weather: Sunny 50s

Project Name: Laurel Valley LE Project No./Task No.: 20145729  
Event: 2SA22 GW Sampler(s): V. Sturm  
Well ID: MW-1E Field Calibration Completed: 10/16/22 @ 1035  
Well Diameter: 2.0 inches Initial Depth to Water: 18.8L feet  
Depth to Bottom: — feet Water Column Thickness: — feet  
Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDS 10101931  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ —  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1551	6.44	1405	19.62	0.99	13.5	-133.2	19.40	~250
1556	6.41	1439	16.62	0.96	13.5	-138.2	18.38	~250
1601	6.34	1299	15.75	0.86	13.6	-142.4	19.31	~250
1606	6.32	1249	13.82	0.84	13.5	-142.7	19.34	~250
1611	6.30	1180	10.56	0.75	13.5	-139.9	19.18	~250
1616	6.30	1151	8.74	0.71	13.5	-127.9	19.20	~250
1621	6.29	1122	7.26	0.75	13.4	-130.8	19.09	~250
1626	6.29	1106	6.95	0.72	13.4	-128.2	19.28	~250
1631	6.29	1099	7.55	0.73	13.4	-126.5	19.12	~250
1635	S A M P L E D							
1652	6.32	1066	7.56	0.84	13.0	-118.2	19.27	~250

Purge Cycle (End): 25/5 seconds @ 65 psi Flow Rate (mL/min End): ~250  
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.58  
Total Purge Volume (Gallons): \_\_\_\_\_ Purge Water Management: on site containment  
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample / Some Black Particulates  
Purge Time: 1542

Sample Time: 1635 Field Filtered (0.45um):  Yes  No  
Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: Co, RSK 175

Other Observations / Equipment Operation Problems: \_\_\_\_\_ DTP: 96.70

Sampler Signature: [Signature] Date: 10/18/22 Page 1 of 1  
QA/QC Signature: [Signature] Date: 10/24/22



























**GOLDER**  
MEMBER OF WSP

**MICROPURGE SAMPLING LOG**

Date: 10/19/22  
Weather: Sunny 50s

Project Name: Laurel Valley LE Project No./Task No.: 20145729  
Event: 2SA22 GW Sampler(s): V. Sturm  
Well ID: MW-X2D Field Calibration Completed: 10/19/22 @ 0725  
Well Diameter: 2.0 inches Initial Depth to Water: 58.80 feet  
Depth to Bottom: — feet Water Column Thickness: — feet  
Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI Pro DSS10L101931  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ —  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>25°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1242	7.09	2699	5.81	8.44	13.4	48.9	59.80	~300
1245	7.12	2807	9.62	8.42	13.4	52.2	60.12	~300
1248	7.12	2863	10.49	8.41	13.4	54.2	60.39	~300
1251	7.13	3049	15.71	8.35	13.4	58.6	BTOP	~200
1256	7.12	3308	18.78	8.34	13.4	63.1	BTOP	~200
1301	7.12	3431	12.54	8.18	13.4	65.0	BTOP	~200
1306	7.12	3543	8.68	7.83	13.4	67.1	BTOP	~200
1311	7.11	3595	8.40	7.72	13.3	68.1	BTOP	~200
1316	7.11	3640	7.59	7.66	13.3	68.7	BTOP	~200
1320	S A M P L E D							
1335	7.12	3897	8.20	8.08	12.8	67.6	BTOP	~200

Purge Cycle (End): 26/4 seconds @ 45 psi Flow Rate (ml/min End): ~200  
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.36  
Total Purge Volume (Gallons): ~2.5 Purge Water Management: on site containment  
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample  
Purge Time: 1234

Sample Time: 1320 Field Filtered (0.45um):  Yes  No  
Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: Hg, RSK 175

Other Observations / Equipment Operation Problems: DIP = 60.75

Sampler Signature: [Signature] Date: 10/19/22 Page 1 of 1  
QA/QC Signature: [Signature] Date: 10/24/22









**GOLDER**  
MEMBER OF WSP

**MICROPURGE SAMPLING LOG**

Date: 10/19/22  
Weather: Sunny 50s

Project Name: Laurel Valley LF Project No./Task No.: 20145729  
Event: 2SA22 GW Sampler(s): V. Sturm  
Well ID: CLF-51 Field Calibration Completed: 10/19/22 @ 0725  
Well Diameter: 2.0 inches Initial Depth to Water: 53.96 feet  
Depth to Bottom: — feet Water Column Thickness: — feet  
Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDSS 161101931  Peristaltic Pump  Compressor  Non-dedicated BP  
 In-Situ —  MP-10 Controller Box  MP-15 Controller Box  —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm) <sup>°C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1526	6.16	615	6.19	2.40	13.5	47.7	55.90	~200
1531	6.69	675	57.10	0.97	13.6	10.1	57.34	~180
* 1536	6.97	677	9.50	2.75	13.7	-23.4	58.09	~180
1541	6.99	661	12.64	1.25	13.7	-33.1	59.21	~180
1546	6.82	587	27.77	1.14	13.8	-31.0	60.02	~180
1551	6.81	545	8.16	1.36	13.9	-20.0	61.34	~150
1556	6.77	518	10.01	1.50	13.8	-10.0	62.19	~150
1601	6.73	498.5	5.70	1.63	13.7	3.9	63.19	~150
1606	6.74	495.8	8.11	1.69	13.7	9.2	64.10	~150
1611	6.72	489.5	7.27	1.70	13.7	13.0	65.17	~150
1615	S A M P L E D							
1625	6.72	480.3	6.47	1.79	13.5	34.7	67.81	~150

Purge Cycle (End): 54/6 seconds @ 55 psi Flow Rate (ml/min End): ~150  
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.54  
Total Purge Volume (Gallons): ~3.5 Purge Water Management: on site containment  
Purge Observations (color, odor, turbidity, sheen): Clear Grab Sample  
Purge Time: 1518

Sample Time: 1615 Field Filtered (0.45um):  Yes  No  
Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 VSWMR Table 3.1 Column B  
 Other: Hg, RSK175  
Other Observations / Equipment Operation Problems: \* = EMPTIED FLOW THROUGH CELL ; DTP: 89.85

Sampler Signature: [Signature] Date: 10/19/22 Page 1 of 1  
QA/QC Signature: [Signature] Date: 10/24/22





## **APPENDIX III**

### **CERTIFICATES-OF-ANALYSIS AND CHAIN-OF-CUSTODY FORMS— 1<sup>ST</sup> & 2<sup>ND</sup> SEMI-ANNUAL 2022 MONITORING EVENTS**



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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22C1525

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: March 30, 2022 16:20

Date Issued: April 6, 2022 17:26

Project Number: [none]

Submitted To: Michele Clary

Purchase Order:

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 03/30/2022 16:20. 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.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

**Laboratory Sample ID: 22C1525-01                      Client Sample ID: MW-X2**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	01	RSK175M	548		1.5	5.0	1	ug/L
Alkalinity	01	SM22 2320B-2011	74.0		5.0	5.0	1	mg/L
Chloride	01	EPA300.0 R2.1	67.0		0.5	1.0	1	mg/L
Sulfate	01	EPA300.0 R2.1	2.3		0.5	1.0	1	mg/L

**Laboratory Sample ID: 22C1525-02                      Client Sample ID: CLF-15A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	02	RSK175M	2.1	J	1.5	5.0	1	ug/L
Alkalinity	02	SM22 2320B-2011	75.0		5.0	5.0	1	mg/L
Chloride	02	EPA300.0 R2.1	12.4		5.0	10.0	10	mg/L
Sulfate	02	EPA300.0 R2.1	10.7		5.0	10.0	10	mg/L

**Laboratory Sample ID: 22C1525-03                      Client Sample ID: PZ-4E**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	03RE1	RSK175M	1690		15.0	50.0	10	ug/L
Alkalinity	03	SM22 2320B-2011	46.0		5.0	5.0	1	mg/L
Chloride	03	EPA300.0 R2.1	2.3		0.5	1.0	1	mg/L
Sulfate	03	EPA300.0 R2.1	3.9		0.5	1.0	1	mg/L

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

**Laboratory Sample ID: 22C1525-04                      Client Sample ID: MW-20**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	04	SM22 2320B-2011	11.2		5.0	5.0	1	mg/L
Chloride	04	EPA300.0 R2.1	1.7		0.5	1.0	1	mg/L
Nitrate as N	04	Calc.	0.290		0.110	0.150	1	mg/L
Nitrate+Nitrite as N	04	SM22 4500-NO3F-2011	0.29		0.10	0.10	1	mg/L
Sulfate	04	EPA300.0 R2.1	2.9		0.5	1.0	1	mg/L

**Laboratory Sample ID: 22C1525-05                      Client Sample ID: MW-4**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	05	SW6010D	0.0340		0.0030	0.0040	1	mg/L
Chloroethane	05	SW8260D	0.93	J	0.70	1.00	1	ug/L

**Laboratory Sample ID: 22C1525-06                      Client Sample ID: MW-6**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	06	SW6010D	0.175		0.0030	0.0040	1	mg/L

**Laboratory Sample ID: 22C1525-07                      Client Sample ID: MW-X1**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	07	SW6010D	0.0452		0.0030	0.0040	1	mg/L



**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

**Laboratory Sample ID: 22C1525-08**                      **Client Sample ID: CLF-1**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	08	SW6010D	0.0429		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	08	SW8260D	0.70	J	0.60	1.00	1	ug/L

**Laboratory Sample ID: 22C1525-09**                      **Client Sample ID: MW-1B**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	09	SW6020B	14.1		0.200	1.00	1	ug/L
1,1-Dichloroethane	09	SW8260D	5.37		0.60	1.00	1	ug/L
Chloroethane	09	SW8260D	2.50		0.70	1.00	1	ug/L
Vinyl chloride	09	SW8260D	1.55		0.50	0.50	1	ug/L
Ethane	09	RSK175M	2.10	J	1.50	5.00	1	ug/L

**Laboratory Sample ID: 22C1525-10**                      **Client Sample ID: MW-1C**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	10	SW6020B	52.2		0.200	1.00	1	ug/L
1,1-Dichloroethane	10	SW8260D	12.9		0.60	1.00	1	ug/L
Chloroethane	10	SW8260D	2.01		0.70	1.00	1	ug/L
Vinyl chloride	10	SW8260D	3.67		0.50	0.50	1	ug/L
Ethane	10	RSK175M	4.98	J	1.50	5.00	1	ug/L

### Analysis Detects Report

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

**Laboratory Sample ID: 22C1525-11**                      **Client Sample ID: MW-1D**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	11	SW6020B	35.8		0.200	1.00	1	ug/L
1,1-Dichloroethane	11	SW8260D	0.76	J	0.60	1.00	1	ug/L
Vinyl chloride	11	SW8260D	2.05		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22C1525-12**                      **Client Sample ID: MW-1E**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	12	SW6020B	1.32		0.200	1.00	1	ug/L
Vinyl chloride	12	SW8260D	3.91		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22C1525-13**                      **Client Sample ID: MW-1F**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	13	SW6020B	0.356	J	0.200	1.00	1	ug/L
1,1-Dichloroethane	13	SW8260D	4.36		0.60	1.00	1	ug/L
Trichloroethene	13	SW8260D	2.90		0.40	1.00	1	ug/L
Vinyl chloride	13	SW8260D	5.50		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22C1525-14**                      **Client Sample ID: MW-1G**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	14	SW6020B	0.787	J	0.200	1.00	1	ug/L
1,1-Dichloroethane	14	SW8260D	1.49		0.60	1.00	1	ug/L
Ethane	14	RSK175M	4.22	J	1.50	5.00	1	ug/L

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

**Laboratory Sample ID: 22C1525-15**                      **Client Sample ID: MW-1H**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	15	SW8260D	3.61		0.60	1.00	1	ug/L
Ethene	15	RSK175M	7.72		1.50	5.00	1	ug/L

**Laboratory Sample ID: 22C1525-17**                      **Client Sample ID: MW-2B**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	17	SW6020B	22.5		0.200	1.00	1	ug/L
1,1-Dichloroethane	17	SW8260D	3.27		0.60	1.00	1	ug/L
Chloroethane	17	SW8260D	1.05		0.70	1.00	1	ug/L
Trichloroethene	17	SW8260D	1.41		0.40	1.00	1	ug/L

**Laboratory Sample ID: 22C1525-18**                      **Client Sample ID: MW-3**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	18	SW6020B	27.3		0.200	1.00	1	ug/L

**Laboratory Sample ID: 22C1525-19**                      **Client Sample ID: MW-3A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	19	SW6020B	12.5		0.200	1.00	1	ug/L

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Laboratory Sample ID: **22C1525-22**                      Client Sample ID: **CLF-S3**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	22	SW8260D	0.69	J	0.60	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".



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-X2	22C1525-01	Ground Water	03/30/2022 10:55	03/30/2022 16:20
CLF-15A	22C1525-02	Ground Water	03/30/2022 12:20	03/30/2022 16:20
PZ-4E	22C1525-03	Ground Water	03/30/2022 13:15	03/30/2022 16:20
MW-20	22C1525-04	Ground Water	03/30/2022 10:40	03/30/2022 16:20
MW-4	22C1525-05	Ground Water	03/28/2022 11:45	03/30/2022 16:20
MW-6	22C1525-06	Ground Water	03/28/2022 13:55	03/30/2022 16:20
MW-X1	22C1525-07	Ground Water	03/28/2022 14:40	03/30/2022 16:20
CLF-1	22C1525-08	Ground Water	03/28/2022 12:50	03/30/2022 16:20
MW-1B	22C1525-09	Ground Water	03/28/2022 15:15 to 03/30/2022 15:15	03/30/2022 16:20
MW-1C	22C1525-10	Ground Water	03/28/2022 14:20 to 03/30/2022 14:20	03/30/2022 16:20
MW-1D	22C1525-11	Ground Water	03/29/2022 11:20 to 03/30/2022 11:20	03/30/2022 16:20
MW-1E	22C1525-12	Ground Water	03/29/2022 12:45 to 03/30/2022 12:45	03/30/2022 16:20
MW-1F	22C1525-13	Ground Water	03/29/2022 13:30 to 03/30/2022 13:30	03/30/2022 16:20
MW-1G	22C1525-14	Ground Water	03/29/2022 10:20 to 03/30/2022 10:20	03/30/2022 16:20
MW-1H	22C1525-15	Ground Water	03/29/2022 14:35 to 03/30/2022 14:35	03/30/2022 16:20
MW-1I	22C1525-16	Ground Water	03/29/2022 09:15 to 03/30/2022 09:15	03/30/2022 16:20
MW-2B	22C1525-17	Ground Water	03/28/2022 15:00 to 03/30/2022 15:00	03/30/2022 16:20
MW-3	22C1525-18	Ground Water	03/29/2022 11:05 to 03/30/2022 11:05	03/30/2022 16:20
MW-3A	22C1525-19	Ground Water	03/29/2022 09:20 to 03/30/2022 09:20	03/30/2022 16:20
MW-5	22C1525-20	Ground Water	03/28/2022 12:20 to 03/30/2022 12:20	03/30/2022 16:20
CLF-S1	22C1525-21	Ground Water	03/29/2022 14:20 to 03/30/2022 14:20	03/30/2022 16:20

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CLF-S3	22C1525-22	Ground Water	03/29/2022 13:15 to 03/30/2022 13:15	03/30/2022 16:20
Trip Blank	22C1525-23	Ground Water	03/23/2022 14:00	03/30/2022 16:20

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-X2

Laboratory Sample ID: 22C1525-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Methane	01	74-82-8	RSK175M	03/31/2022 15:11	03/31/2022 15:11	548		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>01</i>	<i>110 %</i>	<i>70-130</i>	<i>03/31/2022 15:11</i>	<i>03/31/2022 15:11</i>							
<b>Wet Chemistry Analysis</b>												
Alkalinity	01	NA	SM22 2320B-2011	04/05/2022 14:31	04/05/2022 14:31	74.0		5.0	5.0	1	mg/L	JDS
Chloride	01	16887-00-6	EPA300.0 R2.1	04/01/2022 03:27	04/01/2022 03:27	67.0		0.5	1.0	1	mg/L	PMQ
Nitrate as N	01	14797-55-8	Calc.	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.110	0.150	1	mg/L	MKS
Nitrate+Nitrite as N	01	E701177	SM22 4500-NO3F- 2011	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.10	0.10	1	mg/L	HMG
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	03/31/2022 09:30	03/31/2022 09:30	BLOD		0.01	0.05	1	mg/L	MKS
Sulfate	01	14808-79-8	EPA300.0 R2.1	04/01/2022 03:27	04/01/2022 03:27	2.3		0.5	1.0	1	mg/L	PMQ
Sulfide	01	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 22C1525-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Methane	02	74-82-8	RSK175M	03/31/2022 15:24	03/31/2022 15:24	2.1	J	1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>02</i>	<i>169 %</i>	<i>70-130</i>	<i>03/31/2022 15:24</i>	<i>03/31/2022 15:24</i>							<i>S</i>
<b>Wet Chemistry Analysis</b>												
Alkalinity	02	NA	SM22 2320B-2011	04/05/2022 14:31	04/05/2022 14:31	75.0		5.0	5.0	1	mg/L	JDS
Chloride	02	16887-00-6	EPA300.0 R2.1	04/01/2022 04:51	04/01/2022 04:51	12.4		5.0	10.0	10	mg/L	PMQ
Nitrate as N	02	14797-55-8	Calc.	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.110	0.150	1	mg/L	MKS
Nitrate+Nitrite as N	02	E701177	SM22 4500-NO3F- 2011	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.10	0.10	1	mg/L	HMG
Nitrite as N	02	14797-65-0	SM22 4500-NO2B- 2011	03/31/2022 09:30	03/31/2022 09:30	BLOD		0.01	0.05	1	mg/L	MKS
Sulfate	02	14808-79-8	EPA300.0 R2.1	04/01/2022 04:51	04/01/2022 04:51	10.7		5.0	10.0	10	mg/L	PMQ
Sulfide	02	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 22C1525-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
<b>Methane</b>	03RE1	74-82-8	RSK175M	04/01/2022 14:58	04/01/2022 14:58	1690		15.0	50.0	10	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>03RE1</i>	<i>106 %</i>	<i>70-130</i>	<i>04/01/2022 14:58</i>	<i>04/01/2022 14:58</i>							
<b>Wet Chemistry Analysis</b>												
<b>Alkalinity</b>	03	NA	SM22 2320B-2011	04/05/2022 16:00	04/05/2022 16:00	46.0		5.0	5.0	1	mg/L	JDS
<b>Chloride</b>	03	16887-00-6	EPA300.0 R2.1	04/01/2022 05:18	04/01/2022 05:18	2.3		0.5	1.0	1	mg/L	PMQ
Nitrate as N	03	14797-55-8	Calc.	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.110	0.150	1	mg/L	MKS
Nitrate+Nitrite as N	03	E701177	SM22 4500-NO3F- 2011	04/06/2022 14:45	04/06/2022 14:45	BLOD		0.10	0.10	1	mg/L	HMG
Nitrite as N	03	14797-65-0	SM22 4500-NO2B- 2011	03/31/2022 09:30	03/31/2022 09:30	BLOD		0.01	0.05	1	mg/L	MKS
<b>Sulfate</b>	03	14808-79-8	EPA300.0 R2.1	04/01/2022 05:18	04/01/2022 05:18	3.9		0.5	1.0	1	mg/L	PMQ
Sulfide	03	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1525-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	04	74-84-0	RSK175M	04/01/2022 14:07	04/01/2022 14:07	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	04	74-85-1	RSK175M	04/01/2022 14:07	04/01/2022 14:07	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	04	115 %	70-130	04/01/2022 14:07	04/01/2022 14:07							
Methane	04	74-82-8	RSK175M	04/01/2022 14:07	04/01/2022 14:07	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	04	115 %	70-130	04/01/2022 14:07	04/01/2022 14:07							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1525-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Alkalinity	04	NA	SM22 2320B-2011	04/05/2022 16:00	04/05/2022 16:00	11.2		5.0	5.0	1	mg/L	JDS
Chloride	04	16887-00-6	EPA300.0 R2.1	04/04/2022 19:36	04/04/2022 19:36	1.7		0.5	1.0	1	mg/L	MGG
Nitrate as N	04	14797-55-8	Calc.	04/06/2022 14:45	04/06/2022 14:45	0.290		0.110	0.150	1	mg/L	MKS
Nitrate+Nitrite as N	04	E701177	SM22 4500-NO3F- 2011	04/06/2022 14:45	04/06/2022 14:45	0.29		0.10	0.10	1	mg/L	HMG
Nitrite as N	04	14797-65-0	SM22 4500-NO2B- 2011	03/31/2022 09:30	03/31/2022 09:30	BLOD		0.01	0.05	1	mg/L	MKS
Sulfate	04	14808-79-8	EPA300.0 R2.1	04/04/2022 19:36	04/04/2022 19:36	2.9		0.5	1.0	1	mg/L	MGG
Sulfide	04	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1525-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	05	7440-48-4	SW6010D	04/01/2022 16:00	04/04/2022 11:50	0.0340		0.0030	0.0040	1	mg/L	ATW

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1525-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	05	75-34-3	SW8260D	04/01/2022 15:35	04/01/2022 15:35	BLOD		0.60	1.00	1	ug/L	BMR
<b>Chloroethane</b>	05	75-00-3	SW8260D	04/01/2022 15:35	04/01/2022 15:35	0.93	J	0.70	1.00	1	ug/L	BMR
Naphthalene	05	91-20-3	SW8260D	04/01/2022 15:35	04/01/2022 15:35	BLOD		0.80	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	05	93.6 %	70-120	04/01/2022 15:35	04/01/2022 15:35							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	05	86.7 %	75-120	04/01/2022 15:35	04/01/2022 15:35							
<i>Surr: Dibromofluoromethane (Surr)</i>	05	97.3 %	70-130	04/01/2022 15:35	04/01/2022 15:35							
<i>Surr: Toluene-d8 (Surr)</i>	05	93.7 %	70-130	04/01/2022 15:35	04/01/2022 15:35							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1525-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	05	74-84-0	RSK175M	04/01/2022 14:20	04/01/2022 14:20	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	05	126 %	70-130	04/01/2022 14:20	04/01/2022 14:20							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-6

Laboratory Sample ID: 22C1525-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	06	7440-48-4	SW6010D	04/01/2022 16:00	04/04/2022 12:03	0.175		0.0030	0.0040	1	mg/L	ATW

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-6

Laboratory Sample ID: 22C1525-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	06	75-34-3	SW8260D	04/01/2022 15:58	04/01/2022 15:58	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	06	75-00-3	SW8260D	04/01/2022 15:58	04/01/2022 15:58	BLOD		0.70	1.00	1	ug/L	BMR
Naphthalene	06	91-20-3	SW8260D	04/01/2022 15:58	04/01/2022 15:58	BLOD		0.80	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	06	92.8 %	70-120	04/01/2022 15:58	04/01/2022 15:58							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	06	86.8 %	75-120	04/01/2022 15:58	04/01/2022 15:58							
<i>Surr: Dibromofluoromethane (Surr)</i>	06	102 %	70-130	04/01/2022 15:58	04/01/2022 15:58							
<i>Surr: Toluene-d8 (Surr)</i>	06	98.9 %	70-130	04/01/2022 15:58	04/01/2022 15:58							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-6

Laboratory Sample ID: 22C1525-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	06	74-84-0	RSK175M	04/01/2022 14:33	04/01/2022 14:33	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	06	124 %	70-130	04/01/2022 14:33	04/01/2022 14:33							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22C1525-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	07	7440-48-4	SW6010D	04/01/2022 16:00	04/04/2022 12:07	0.0452		0.0030	0.0040	1	mg/L	ATW



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22C1525-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	07	75-34-3	SW8260D	04/01/2022 16:26	04/01/2022 16:26	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	07	75-00-3	SW8260D	04/01/2022 16:26	04/01/2022 16:26	BLOD		0.70	1.00	1	ug/L	BMR
Naphthalene	07	91-20-3	SW8260D	04/01/2022 16:26	04/01/2022 16:26	BLOD		0.80	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	07	91.2 %	70-120	04/01/2022 16:26	04/01/2022 16:26							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	07	85.4 %	75-120	04/01/2022 16:26	04/01/2022 16:26							
<i>Surr: Dibromofluoromethane (Surr)</i>	07	100 %	70-130	04/01/2022 16:26	04/01/2022 16:26							
<i>Surr: Toluene-d8 (Surr)</i>	07	98.8 %	70-130	04/01/2022 16:26	04/01/2022 16:26							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22C1525-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	07	74-84-0	RSK175M	04/01/2022 14:46	04/01/2022 14:46	BLOD		1.5	5.0	1	ug/L	BMR
Surr: Acetylene (Surr)	07	126 %	70-130	04/01/2022 14:46	04/01/2022 14:46							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22C1525-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	08	7440-48-4	SW6010D	04/01/2022 16:00	04/04/2022 12:12	0.0429		0.0030	0.0040	1	mg/L	ATW

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22C1525-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	08	75-34-3	SW8260D	04/01/2022 16:50	04/01/2022 16:50	0.70	J	0.60	1.00	1	ug/L	BMR
Chloroethane	08	75-00-3	SW8260D	04/01/2022 16:50	04/01/2022 16:50	BLOD		0.70	1.00	1	ug/L	BMR
Naphthalene	08	91-20-3	SW8260D	04/01/2022 16:50	04/01/2022 16:50	BLOD		0.80	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	08	85.3 %	70-120	04/01/2022 16:50	04/01/2022 16:50							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	08	88.1 %	75-120	04/01/2022 16:50	04/01/2022 16:50							
<i>Surr: Dibromofluoromethane (Surr)</i>	08	102 %	70-130	04/01/2022 16:50	04/01/2022 16:50							
<i>Surr: Toluene-d8 (Surr)</i>	08	93.1 %	70-130	04/01/2022 16:50	04/01/2022 16:50							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22C1525-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	08	74-84-0	RSK175M	04/01/2022 16:03	04/01/2022 16:03	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>08</i>	<i>96.4 %</i>	<i>70-130</i>	<i>04/01/2022 16:03</i>	<i>04/01/2022 16:03</i>							



### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: **MW-1B**

Laboratory Sample ID: **22C1525-09**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	09	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:29	14.1		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: **MW-1B**

Laboratory Sample ID: **22C1525-09**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	09	75-34-3	SW8260D	04/01/2022 17:14	04/01/2022 17:14	5.37		0.60	1.00	1	ug/L	BMR
Chloroethane	09	75-00-3	SW8260D	04/01/2022 17:14	04/01/2022 17:14	2.50		0.70	1.00	1	ug/L	BMR
Trichloroethene	09	79-01-6	SW8260D	04/01/2022 17:14	04/01/2022 17:14	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	09	75-01-4	SW8260D	04/01/2022 17:14	04/01/2022 17:14	1.55		0.50	0.50	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	09	98.9 %	70-120	04/01/2022 17:14	04/01/2022 17:14							
Surr: 4-Bromofluorobenzene (Surr)	09	87.7 %	75-120	04/01/2022 17:14	04/01/2022 17:14							
Surr: Dibromofluoromethane (Surr)	09	103 %	70-130	04/01/2022 17:14	04/01/2022 17:14							
Surr: Toluene-d8 (Surr)	09	96.8 %	70-130	04/01/2022 17:14	04/01/2022 17:14							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1525-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	09	74-84-0	RSK175M	04/01/2022 16:16	04/01/2022 16:16	2.10	J	1.50	5.00	1	ug/L	BMR
Ethene	09	74-85-1	RSK175M	04/01/2022 16:16	04/01/2022 16:16	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	09	131 %	70-130	04/01/2022 16:16	04/01/2022 16:16							S

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1C

Laboratory Sample ID: 22C1525-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	10	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:37	52.2		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1C

Laboratory Sample ID: 22C1525-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	10	75-34-3	SW8260D	04/01/2022 17:38	04/01/2022 17:38	12.9		0.60	1.00	1	ug/L	BMR
Chloroethane	10	75-00-3	SW8260D	04/01/2022 17:38	04/01/2022 17:38	2.01		0.70	1.00	1	ug/L	BMR
Trichloroethene	10	79-01-6	SW8260D	04/01/2022 17:38	04/01/2022 17:38	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	10	75-01-4	SW8260D	04/01/2022 17:38	04/01/2022 17:38	3.67		0.50	0.50	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	10	92.2 %	70-120	04/01/2022 17:38	04/01/2022 17:38							
Surr: 4-Bromofluorobenzene (Surr)	10	89.0 %	75-120	04/01/2022 17:38	04/01/2022 17:38							
Surr: Dibromofluoromethane (Surr)	10	100 %	70-130	04/01/2022 17:38	04/01/2022 17:38							
Surr: Toluene-d8 (Surr)	10	97.0 %	70-130	04/01/2022 17:38	04/01/2022 17:38							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1C

Laboratory Sample ID: 22C1525-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	10	74-84-0	RSK175M	04/01/2022 16:29	04/01/2022 16:29	4.98	J	1.50	5.00	1	ug/L	BMR
Ethene	10	74-85-1	RSK175M	04/01/2022 16:29	04/01/2022 16:29	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	10	120 %	70-130	04/01/2022 16:29	04/01/2022 16:29							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1D

Laboratory Sample ID: 22C1525-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	11	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:40	35.8		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1D

Laboratory Sample ID: 22C1525-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	11	75-34-3	SW8260D	04/01/2022 17:38	04/01/2022 17:38	0.76	J	0.60	1.00	1	ug/L	BMR
Chloroethane	11	75-00-3	SW8260D	04/01/2022 17:38	04/01/2022 17:38	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	11	79-01-6	SW8260D	04/01/2022 17:38	04/01/2022 17:38	BLOD		0.40	1.00	1	ug/L	BMR
<b>Vinyl chloride</b>	11	75-01-4	SW8260D	04/01/2022 17:38	04/01/2022 17:38	2.05		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	11	99.6 %	70-120	04/01/2022 17:38	04/01/2022 17:38							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	11	97.0 %	75-120	04/01/2022 17:38	04/01/2022 17:38							
<i>Surr: Dibromofluoromethane (Surr)</i>	11	107 %	70-130	04/01/2022 17:38	04/01/2022 17:38							
<i>Surr: Toluene-d8 (Surr)</i>	11	103 %	70-130	04/01/2022 17:38	04/01/2022 17:38							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1D

Laboratory Sample ID: 22C1525-11

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	11	74-84-0	RSK175M	03/31/2022 15:50	03/31/2022 15:50	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	11	74-85-1	RSK175M	03/31/2022 15:50	03/31/2022 15:50	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	11	120 %	70-130	03/31/2022 15:50	03/31/2022 15:50							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22C1525-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	12	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:42	1.32		0.200	1.00	1	ug/L	RCV



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22C1525-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	12	75-34-3	SW8260D	04/01/2022 18:03	04/01/2022 18:03	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	12	75-00-3	SW8260D	04/01/2022 18:03	04/01/2022 18:03	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	12	79-01-6	SW8260D	04/01/2022 18:03	04/01/2022 18:03	BLOD		0.40	1.00	1	ug/L	BMR
<b>Vinyl chloride</b>	12	75-01-4	SW8260D	04/01/2022 18:03	04/01/2022 18:03	3.91		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	12	100 %	70-120	04/01/2022 18:03	04/01/2022 18:03							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	12	96.6 %	75-120	04/01/2022 18:03	04/01/2022 18:03							
<i>Surr: Dibromofluoromethane (Surr)</i>	12	108 %	70-130	04/01/2022 18:03	04/01/2022 18:03							
<i>Surr: Toluene-d8 (Surr)</i>	12	103 %	70-130	04/01/2022 18:03	04/01/2022 18:03							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22C1525-12

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	12	74-84-0	RSK175M	03/31/2022 16:03	03/31/2022 16:03	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	12	74-85-1	RSK175M	03/31/2022 16:03	03/31/2022 16:03	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	12	125 %	70-130	03/31/2022 16:03	03/31/2022 16:03							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22C1525-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	13	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:45	0.356	J	0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22C1525-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	13	75-34-3	SW8260D	04/01/2022 18:27	04/01/2022 18:27	4.36		0.60	1.00	1	ug/L	BMR
Chloroethane	13	75-00-3	SW8260D	04/01/2022 18:27	04/01/2022 18:27	BLOD		0.70	1.00	1	ug/L	BMR
<b>Trichloroethene</b>	13	79-01-6	SW8260D	04/01/2022 18:27	04/01/2022 18:27	2.90		0.40	1.00	1	ug/L	BMR
<b>Vinyl chloride</b>	13	75-01-4	SW8260D	04/01/2022 18:27	04/01/2022 18:27	5.50		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	13	102 %	70-120	04/01/2022 18:27	04/01/2022 18:27							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	13	96.2 %	75-120	04/01/2022 18:27	04/01/2022 18:27							
<i>Surr: Dibromofluoromethane (Surr)</i>	13	111 %	70-130	04/01/2022 18:27	04/01/2022 18:27							
<i>Surr: Toluene-d8 (Surr)</i>	13	102 %	70-130	04/01/2022 18:27	04/01/2022 18:27							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22C1525-13

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	13	74-84-0	RSK175M	03/31/2022 16:16	03/31/2022 16:16	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	13	74-85-1	RSK175M	03/31/2022 16:16	03/31/2022 16:16	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	13	123 %	70-130	03/31/2022 16:16	03/31/2022 16:16							



### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: **MW-1G**

Laboratory Sample ID: **22C1525-14**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	14	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 12:48	0.787	J	0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1G

Laboratory Sample ID: 22C1525-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	14	75-34-3	SW8260D	04/01/2022 18:52	04/01/2022 18:52	1.49		0.60	1.00	1	ug/L	BMR
Chloroethane	14	75-00-3	SW8260D	04/01/2022 18:52	04/01/2022 18:52	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	14	79-01-6	SW8260D	04/01/2022 18:52	04/01/2022 18:52	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	14	75-01-4	SW8260D	04/01/2022 18:52	04/01/2022 18:52	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	14	99.1 %	70-120	04/01/2022 18:52	04/01/2022 18:52							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	14	97.4 %	75-120	04/01/2022 18:52	04/01/2022 18:52							
<i>Surr: Dibromofluoromethane (Surr)</i>	14	116 %	70-130	04/01/2022 18:52	04/01/2022 18:52							
<i>Surr: Toluene-d8 (Surr)</i>	14	103 %	70-130	04/01/2022 18:52	04/01/2022 18:52							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1G

Laboratory Sample ID: 22C1525-14

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	14	74-84-0	RSK175M	03/31/2022 16:29	03/31/2022 16:29	4.22	J	1.50	5.00	1	ug/L	BMR
Ethene	14	74-85-1	RSK175M	03/31/2022 16:29	03/31/2022 16:29	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	14	124 %	70-130	03/31/2022 16:29	03/31/2022 16:29							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22C1525-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	15	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:01	BLOD		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22C1525-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	15	75-34-3	SW8260D	04/01/2022 19:16	04/01/2022 19:16	3.61		0.60	1.00	1	ug/L	BMR
Chloroethane	15	75-00-3	SW8260D	04/01/2022 19:16	04/01/2022 19:16	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	15	79-01-6	SW8260D	04/01/2022 19:16	04/01/2022 19:16	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	15	75-01-4	SW8260D	04/01/2022 19:16	04/01/2022 19:16	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	15	98.0 %	70-120	04/01/2022 19:16	04/01/2022 19:16							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	15	96.0 %	75-120	04/01/2022 19:16	04/01/2022 19:16							
<i>Surr: Dibromofluoromethane (Surr)</i>	15	111 %	70-130	04/01/2022 19:16	04/01/2022 19:16							
<i>Surr: Toluene-d8 (Surr)</i>	15	103 %	70-130	04/01/2022 19:16	04/01/2022 19:16							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22C1525-15

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	15	74-84-0	RSK175M	03/31/2022 16:41	03/31/2022 16:41	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	15	74-85-1	RSK175M	03/31/2022 16:41	03/31/2022 16:41	7.72		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	15	122 %	70-130	03/31/2022 16:41	03/31/2022 16:41							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22C1525-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	16	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:03	BLOD		0.200	1.00	1	ug/L	RCV

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22C1525-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	16	75-34-3	SW8260D	04/01/2022 19:40	04/01/2022 19:40	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	16	75-00-3	SW8260D	04/01/2022 19:40	04/01/2022 19:40	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	16	79-01-6	SW8260D	04/01/2022 19:40	04/01/2022 19:40	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	16	75-01-4	SW8260D	04/01/2022 19:40	04/01/2022 19:40	BLOD		0.50	0.50	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	16	95.8 %	70-120	04/01/2022 19:40	04/01/2022 19:40							
Surr: 4-Bromofluorobenzene (Surr)	16	96.7 %	75-120	04/01/2022 19:40	04/01/2022 19:40							
Surr: Dibromofluoromethane (Surr)	16	94.4 %	70-130	04/01/2022 19:40	04/01/2022 19:40							
Surr: Toluene-d8 (Surr)	16	103 %	70-130	04/01/2022 19:40	04/01/2022 19:40							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22C1525-16

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	16	74-84-0	RSK175M	03/31/2022 16:55	03/31/2022 16:55	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	16	74-85-1	RSK175M	03/31/2022 16:55	03/31/2022 16:55	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	16	118 %	70-130	03/31/2022 16:55	03/31/2022 16:55							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1525-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	17	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:06	22.5		0.200	1.00	1	ug/L	RCV



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: **MW-2B**

Laboratory Sample ID: **22C1525-17**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	17	75-34-3	SW8260D	04/01/2022 18:02	04/01/2022 18:02	3.27		0.60	1.00	1	ug/L	BMR
Chloroethane	17	75-00-3	SW8260D	04/01/2022 18:02	04/01/2022 18:02	1.05		0.70	1.00	1	ug/L	BMR
Trichloroethene	17	79-01-6	SW8260D	04/01/2022 18:02	04/01/2022 18:02	1.41		0.40	1.00	1	ug/L	BMR
Vinyl chloride	17	75-01-4	SW8260D	04/01/2022 18:02	04/01/2022 18:02	BLOD		0.50	0.50	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	17	89.9 %	70-120	04/01/2022 18:02	04/01/2022 18:02							
Surr: 4-Bromofluorobenzene (Surr)	17	87.5 %	75-120	04/01/2022 18:02	04/01/2022 18:02							
Surr: Dibromofluoromethane (Surr)	17	94.1 %	70-130	04/01/2022 18:02	04/01/2022 18:02							
Surr: Toluene-d8 (Surr)	17	95.1 %	70-130	04/01/2022 18:02	04/01/2022 18:02							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1525-17

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	17	74-84-0	RSK175M	04/01/2022 16:41	04/01/2022 16:41	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	17	74-85-1	RSK175M	04/01/2022 16:41	04/01/2022 16:41	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	17	127 %	70-130	04/01/2022 16:41	04/01/2022 16:41							

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3

Laboratory Sample ID: 22C1525-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	18	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:09	27.3		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3

Laboratory Sample ID: 22C1525-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	18	75-34-3	SW8260D	04/01/2022 20:05	04/01/2022 20:05	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	18	75-00-3	SW8260D	04/01/2022 20:05	04/01/2022 20:05	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	18	79-01-6	SW8260D	04/01/2022 20:05	04/01/2022 20:05	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	18	75-01-4	SW8260D	04/01/2022 20:05	04/01/2022 20:05	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	18	100 %	70-120	04/01/2022 20:05	04/01/2022 20:05							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	18	96.7 %	75-120	04/01/2022 20:05	04/01/2022 20:05							
<i>Surr: Dibromofluoromethane (Surr)</i>	18	101 %	70-130	04/01/2022 20:05	04/01/2022 20:05							
<i>Surr: Toluene-d8 (Surr)</i>	18	103 %	70-130	04/01/2022 20:05	04/01/2022 20:05							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3

Laboratory Sample ID: 22C1525-18

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	18	74-84-0	RSK175M	03/31/2022 17:07	03/31/2022 17:07	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	18	74-85-1	RSK175M	03/31/2022 17:07	03/31/2022 17:07	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	18	117 %	70-130	03/31/2022 17:07	03/31/2022 17:07							



### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1525-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	19	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:11	12.5		0.200	1.00	1	ug/L	RCV

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1525-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	19	75-34-3	SW8260D	04/01/2022 18:26	04/01/2022 18:26	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	19	75-00-3	SW8260D	04/01/2022 18:26	04/01/2022 18:26	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	19	79-01-6	SW8260D	04/01/2022 18:26	04/01/2022 18:26	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	19	75-01-4	SW8260D	04/01/2022 18:26	04/01/2022 18:26	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	19	90.4 %	70-120	04/01/2022 18:26	04/01/2022 18:26							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	19	88.6 %	75-120	04/01/2022 18:26	04/01/2022 18:26							
<i>Surr: Dibromofluoromethane (Surr)</i>	19	97.0 %	70-130	04/01/2022 18:26	04/01/2022 18:26							
<i>Surr: Toluene-d8 (Surr)</i>	19	100 %	70-130	04/01/2022 18:26	04/01/2022 18:26							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1525-19

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	19	74-84-0	RSK175M	04/01/2022 16:54	04/01/2022 16:54	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	19	74-85-1	RSK175M	04/01/2022 16:54	04/01/2022 16:54	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	19	144 %	70-130	04/01/2022 16:54	04/01/2022 16:54							S

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-5

Laboratory Sample ID: 22C1525-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	20	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:14	BLOD		0.200	1.00	1	ug/L	RCV

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-5

Laboratory Sample ID: 22C1525-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	20	75-34-3	SW8260D	04/01/2022 18:50	04/01/2022 18:50	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	20	75-00-3	SW8260D	04/01/2022 18:50	04/01/2022 18:50	BLOD		0.70	1.00	1	ug/L	BMR
Trichloroethene	20	79-01-6	SW8260D	04/01/2022 18:50	04/01/2022 18:50	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	20	75-01-4	SW8260D	04/01/2022 18:50	04/01/2022 18:50	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	20	92.0 %	70-120	04/01/2022 18:50	04/01/2022 18:50							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	20	83.7 %	75-120	04/01/2022 18:50	04/01/2022 18:50							
<i>Surr: Dibromofluoromethane (Surr)</i>	20	95.9 %	70-130	04/01/2022 18:50	04/01/2022 18:50							
<i>Surr: Toluene-d8 (Surr)</i>	20	103 %	70-130	04/01/2022 18:50	04/01/2022 18:50							



### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: MW-5

Laboratory Sample ID: 22C1525-20

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	20	74-84-0	RSK175M	04/01/2022 17:07	04/01/2022 17:07	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	20	74-85-1	RSK175M	04/01/2022 17:07	04/01/2022 17:07	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	20	109 %	70-130	04/01/2022 17:07	04/01/2022 17:07							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 22C1525-21

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Mercury	21	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 13:54	BLOD		0.00020	0.00020	1	mg/L	ARP

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 22C1525-21

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	21	75-34-3	SW8260D	04/01/2022 19:13	04/01/2022 19:13	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	21	75-00-3	SW8260D	04/01/2022 19:13	04/01/2022 19:13	BLOD		0.70	1.00	1	ug/L	BMR
cis-1,2-Dichloroethene	21	156-59-2	SW8260D	04/01/2022 19:13	04/01/2022 19:13	BLOD		0.40	1.00	1	ug/L	BMR
trans-1,2-Dichloroethene	21	156-60-5	SW8260D	04/01/2022 19:13	04/01/2022 19:13	BLOD		0.60	1.00	1	ug/L	BMR
Trichloroethene	21	79-01-6	SW8260D	04/01/2022 19:13	04/01/2022 19:13	BLOD		0.40	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	21	93.2 %	70-120	04/01/2022 19:13	04/01/2022 19:13							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	21	86.3 %	75-120	04/01/2022 19:13	04/01/2022 19:13							
<i>Surr: Dibromofluoromethane (Surr)</i>	21	99.7 %	70-130	04/01/2022 19:13	04/01/2022 19:13							
<i>Surr: Toluene-d8 (Surr)</i>	21	93.7 %	70-130	04/01/2022 19:13	04/01/2022 19:13							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 22C1525-21

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	21	74-84-0	RSK175M	04/01/2022 17:20	04/01/2022 17:20	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	21	74-85-1	RSK175M	04/01/2022 17:20	04/01/2022 17:20	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	21	113 %	70-130	04/01/2022 17:20	04/01/2022 17:20							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22C1525-22

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Mercury	22	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 13:56	BLOD		0.00020	0.00020	1	mg/L	ARP



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22C1525-22

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	22	75-34-3	SW8260D	04/01/2022 19:37	04/01/2022 19:37	0.69	J	0.60	1.00	1	ug/L	BMR
Chloroethane	22	75-00-3	SW8260D	04/01/2022 19:37	04/01/2022 19:37	BLOD		0.70	1.00	1	ug/L	BMR
cis-1,2-Dichloroethene	22	156-59-2	SW8260D	04/01/2022 19:37	04/01/2022 19:37	BLOD		0.40	1.00	1	ug/L	BMR
trans-1,2-Dichloroethene	22	156-60-5	SW8260D	04/01/2022 19:37	04/01/2022 19:37	BLOD		0.60	1.00	1	ug/L	BMR
Trichloroethene	22	79-01-6	SW8260D	04/01/2022 19:37	04/01/2022 19:37	BLOD		0.40	1.00	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	22	97.4 %	70-120	04/01/2022 19:37	04/01/2022 19:37							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	22	89.7 %	75-120	04/01/2022 19:37	04/01/2022 19:37							
<i>Surr: Dibromofluoromethane (Surr)</i>	22	97.4 %	70-130	04/01/2022 19:37	04/01/2022 19:37							
<i>Surr: Toluene-d8 (Surr)</i>	22	96.6 %	70-130	04/01/2022 19:37	04/01/2022 19:37							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22C1525-22

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	22	74-84-0	RSK175M	04/01/2022 17:33	04/01/2022 17:33	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	22	74-85-1	RSK175M	04/01/2022 17:33	04/01/2022 17:33	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	22	182 %	70-130	04/01/2022 17:33	04/01/2022 17:33							S

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1525-23

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	23	75-34-3	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.60	1.00	1	ug/L	BMR
Chloroethane	23	75-00-3	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.70	1.00	1	ug/L	BMR
cis-1,2-Dichloroethene	23	156-59-2	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.40	1.00	1	ug/L	BMR
Naphthalene	23	91-20-3	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.80	1.00	1	ug/L	BMR
trans-1,2-Dichloroethene	23	156-60-5	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.60	1.00	1	ug/L	BMR
Trichloroethene	23	79-01-6	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.40	1.00	1	ug/L	BMR
Vinyl chloride	23	75-01-4	SW8260D	04/01/2022 14:47	04/01/2022 14:47	BLOD		0.50	0.50	1	ug/L	BMR
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	23	91.2 %	70-120	04/01/2022 14:47	04/01/2022 14:47							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	23	87.1 %	75-120	04/01/2022 14:47	04/01/2022 14:47							
<i>Surr: Dibromofluoromethane (Surr)</i>	23	97.2 %	70-130	04/01/2022 14:47	04/01/2022 14:47							
<i>Surr: Toluene-d8 (Surr)</i>	23	97.5 %	70-130	04/01/2022 14:47	04/01/2022 14:47							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1525-23

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	23	74-84-0	RSK175M	04/01/2022 13:54	04/01/2022 13:54	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	23	74-85-1	RSK175M	04/01/2022 13:54	04/01/2022 13:54	BLOD		1.50	5.00	1	ug/L	BMR
Methane	23	74-82-8	RSK175M	04/01/2022 13:54	04/01/2022 13:54	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	23	95.3 %	70-130	04/01/2022 13:54	04/01/2022 13:54							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0018 - EPA200.2/R2.8</b>										
<b>Blank (BFD0018-BLK1)</b> Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	ND	0.0040	mg/L							
<b>LCS (BFD0018-BS1)</b> Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	0.535	0.0040	mg/L	0.500		107	80-120			
<b>Matrix Spike (BFD0018-MS1)</b> Source: 22C1525-05 Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	0.551	0.0040	mg/L	0.500	0.0340	103	75-125			
<b>Matrix Spike Dup (BFD0018-MSD1)</b> Source: 22C1525-05 Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	0.544	0.0040	mg/L	0.500	0.0340	102	75-125	1.28	20	
<b>Batch BFD0019 - EPA200.8 R5.4</b>										
<b>Blank (BFD0019-BLK1)</b> Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	ND	1.00	ug/L							
<b>LCS (BFD0019-BS1)</b> Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	48.7	1.00	ug/L	50.0		97.3	80-120			
<b>Matrix Spike (BFD0019-MS1)</b> Source: 22C1525-09 Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	60.9	1.00	ug/L	50.0	14.1	93.7	75-125			
<b>Matrix Spike (BFD0019-MS2)</b> Source: 22C1525-20 Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	48.2	1.00	ug/L	50.0	BLOD	96.5	75-125			
<b>Matrix Spike Dup (BFD0019-MSD1)</b> Source: 22C1525-09 Prepared: 04/01/2022 Analyzed: 04/04/2022										
Cobalt	59.8	1.00	ug/L	50.0	14.1	91.5	75-125	1.83	20	



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0019 - EPA200.8 R5.4</b>										
<b>Matrix Spike Dup (BFD0019-MSD2)</b>										
		<b>Source: 22C1525-20</b>			<b>Prepared: 04/01/2022 Analyzed: 04/04/2022</b>					
Cobalt	47.9	1.00	ug/L	50.0	BLOD	95.7	75-125	0.782	20	
<b>Batch BFD0058 - SW7470A</b>										
<b>Blank (BFD0058-BLK1)</b>										
		<b>Prepared &amp; Analyzed: 04/04/2022</b>								
Mercury	ND	0.00020	mg/L							
<b>LCS (BFD0058-BS1)</b>										
		<b>Prepared &amp; Analyzed: 04/04/2022</b>								
Mercury	0.00252	0.00020	mg/L	0.00250		101	80-120			

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFC1271 - SW5030B-MS</b>										
<b>Blank (BFC1271-BLK1)</b>				Prepared & Analyzed: 03/31/2022						
1,1-Dichloroethane	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Vinyl chloride	ND	0.50	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	45.9		ug/L	50.0		91.8	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	47.6		ug/L	50.0		95.3	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	45.1		ug/L	50.0		90.2	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	50.5		ug/L	50.0		101	70-130			
<b>LCS (BFC1271-BS1)</b>				Prepared & Analyzed: 03/31/2022						
1,1-Dichloroethane	52.2	1	ug/L	50.0		104	70-135			
Chloroethane	45.6	1	ug/L	50.0		91.2	60-135			
cis-1,2-Dichloroethylene	64.6	1	ug/L	50.0		129	70-125			L
trans-1,2-Dichloroethylene	39.8	1	ug/L	50.0		79.5	60-140			
Trichloroethylene	57.5	1	ug/L	50.0		115	70-125			
Vinyl chloride	43.7	0.5	ug/L	50.0		87.4	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.2		ug/L	50.0		92.5	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.4		ug/L	50.0		101	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	45.4		ug/L	50.0		90.8	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.8		ug/L	50.0		99.5	70-130			
<b>Matrix Spike (BFC1271-MS1)</b>				<b>Source: 22C1455-03</b>		Prepared & Analyzed: 03/31/2022				
1,1-Dichloroethane	49.3	1	ug/L	50.0	BLOD	98.7	70-135			
Chloroethane	42.4	1	ug/L	50.0	BLOD	84.8	60-135			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFC1271 - SW5030B-MS

Matrix Spike (BFC1271-MS1)	Source: 22C1455-03			Prepared & Analyzed: 03/31/2022						
cis-1,2-Dichloroethylene	62.0	1	ug/L	50.0	BLOD	124	70-125			
trans-1,2-Dichloroethylene	37.1	1	ug/L	50.0	BLOD	74.2	60-140			
Trichloroethylene	55.2	1	ug/L	50.0	BLOD	110	70-125			
Vinyl chloride	41.7	0.5	ug/L	50.0	BLOD	83.5	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	45.7		ug/L	50.0		91.4	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.7		ug/L	50.0		101	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.2		ug/L	50.0		92.5	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.5		ug/L	50.0		99.0	70-130			

Matrix Spike Dup (BFC1271-MSD1)	Source: 22C1455-03			Prepared & Analyzed: 03/31/2022						
1,1-Dichloroethane	49.9	1	ug/L	50.0	BLOD	99.9	70-135	1.23	30	
Chloroethane	43.2	1	ug/L	50.0	BLOD	86.3	60-135	1.78	30	
cis-1,2-Dichloroethylene	62.8	1	ug/L	50.0	BLOD	126	70-125	1.14	30	M
trans-1,2-Dichloroethylene	38.3	1	ug/L	50.0	BLOD	76.5	60-140	3.10	30	
Trichloroethylene	57.6	1	ug/L	50.0	BLOD	115	70-125	4.27	30	
Vinyl chloride	41.9	0.5	ug/L	50.0	BLOD	83.8	50-145	0.430	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	42.4		ug/L	50.0		84.8	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.2		ug/L	50.0		102	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	43.0		ug/L	50.0		86.0	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	50.1		ug/L	50.0		100	70-130			

### Batch BFD0021 - SW5030B-MS

Blank (BFD0021-BLK1)	Prepared & Analyzed: 04/01/2022									
1,1-Dichloroethane	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0021 - SW5030B-MS</b>										
<b>Blank (BFD0021-BLK1)</b>										
Prepared & Analyzed: 04/01/2022										
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Vinyl chloride	ND	0.50	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	50.5		ug/L	50.0		101	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	43.2		ug/L	50.0		86.4	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	50.2		ug/L	50.0		100	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.7		ug/L	50.0		97.4	70-130			
<b>LCS (BFD0021-BS1)</b>										
Prepared & Analyzed: 04/01/2022										
1,1-Dichloroethane	41.4	1	ug/L	50.0		82.8	70-135			
Chloroethane	48.2	1	ug/L	50.0		96.3	60-135			
cis-1,2-Dichloroethylene	39.3	1	ug/L	50.0		78.6	70-125			
trans-1,2-Dichloroethylene	41.2	1	ug/L	50.0		82.5	60-140			
Trichloroethylene	45.0	1	ug/L	50.0		90.0	70-125			
Vinyl chloride	38.8	0.5	ug/L	50.0		77.6	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.2		ug/L	50.0		92.4	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.1		ug/L	50.0		100	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	45.0		ug/L	50.0		90.1	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.7		ug/L	50.0		99.3	70-130			
<b>Matrix Spike (BFD0021-MS1)</b>										
Source: 22C1525-07 Prepared & Analyzed: 04/01/2022										
1,1-Dichloroethane	48.8	1	ug/L	50.0	BLOD	97.6	70-135			
Chloroethane	54.8	1	ug/L	50.0	BLOD	110	60-135			
cis-1,2-Dichloroethylene	59.6	1	ug/L	50.0	BLOD	119	70-125			
trans-1,2-Dichloroethylene	35.1	1	ug/L	50.0	BLOD	70.3	60-140			

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

<b>Matrix Spike (BFD0021-MS1)</b>		<b>Source: 22C1525-07</b>			<b>Prepared &amp; Analyzed: 04/01/2022</b>					
Trichloroethylene	50.7	1	ug/L	50.0	BLOD	101	70-125			
Vinyl chloride	41.4	0.5	ug/L	50.0	BLOD	82.7	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.4		ug/L	50.0		92.9	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	48.9		ug/L	50.0		97.8	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.8		ug/L	50.0		93.7	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	50.5		ug/L	50.0		101	70-130			
<b>Matrix Spike Dup (BFD0021-MSD1)</b>		<b>Source: 22C1525-07</b>			<b>Prepared &amp; Analyzed: 04/01/2022</b>					
1,1-Dichloroethane	47.6	1	ug/L	50.0	BLOD	95.2	70-135	2.49	30	
Chloroethane	50.9	1	ug/L	50.0	BLOD	102	60-135	7.38	30	
cis-1,2-Dichloroethylene	57.2	1	ug/L	50.0	BLOD	114	70-125	3.94	30	
trans-1,2-Dichloroethylene	34.3	1	ug/L	50.0	BLOD	68.6	60-140	2.45	30	
Trichloroethylene	47.8	1	ug/L	50.0	BLOD	95.5	70-125	6.07	30	
Vinyl chloride	39.5	0.5	ug/L	50.0	BLOD	79.1	50-145	4.52	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	45.6		ug/L	50.0		91.2	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.6		ug/L	50.0		101	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.6		ug/L	50.0		93.1	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	47.6		ug/L	50.0		95.2	70-130			

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Date Issued: 4/6/2022 5:26:04PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFC1248 - SW5030B-MS</b>										
<b>Blank (BFC1248-BLK1)</b>			Prepared & Analyzed: 03/31/2022							
Ethane	ND	5.00	ug/L							
Methane	ND	5.0	ug/L							
Ethene	ND	5.00	ug/L							
Methane	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	386		ug/L	432		89.3	70-130			
<i>Surr: Acetylene (Surr)</i>	386		ug/L	432		89.3	70-130			
<b>LCS (BFC1248-BS1)</b>			Prepared & Analyzed: 03/31/2022							
Methane	248	5.0	ug/L	266		93.1	70-130			
Ethane	481	5.00	ug/L	500		96.3	70-130			
Ethene	433	5.00	ug/L	464		93.3	70-130			
Methane	248	5.00	ug/L	266		93.1	70-130			
<i>Surr: Acetylene (Surr)</i>	360		ug/L	432		83.3	70-130			
<i>Surr: Acetylene (Surr)</i>	360		ug/L	432		83.3	70-130			
<b>Duplicate (BFC1248-DUP1)</b>			<b>Source: 22C1416-04</b>		Prepared & Analyzed: 03/31/2022					
Methane	142	5.0	ug/L		191			29.2	20	P
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	142	5.00	ug/L		191			29.2	20	P
<i>Surr: Acetylene (Surr)</i>	304		ug/L	432		70.3	70-130			
<i>Surr: Acetylene (Surr)</i>	304		ug/L	432		70.3	70-130			
<b>Matrix Spike (BFC1248-MS1)</b>			<b>Source: 22C1416-01</b>		Prepared & Analyzed: 03/31/2022					
Methane	281	5.0	ug/L	266	BLOD	106	70-130			
Ethane	562	5.00	ug/L	500	BLOD	112	70-130			



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Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFC1248 - SW5030B-MS

Matrix Spike (BFC1248-MS1)		Source: 22C1416-01			Prepared & Analyzed: 03/31/2022					
Ethene	501	5.00	ug/L	464	BLOD	108	70-130			
Methane	281	5.00	ug/L	266	BLOD	106	70-130			
<i>Surr: Acetylene (Surr)</i>	455		ug/L	432		105	70-130			
<i>Surr: Acetylene (Surr)</i>	455		ug/L	432		105	70-130			

Matrix Spike Dup (BFC1248-MSD1)		Source: 22C1416-01			Prepared & Analyzed: 03/31/2022					
Methane	302	5.0	ug/L	266	BLOD	113	70-130	6.98	20	
Ethane	602	5.00	ug/L	500	BLOD	120	70-130	6.87	20	
Ethene	538	5.00	ug/L	464	BLOD	116	70-130	7.19	20	
Methane	302	5.00	ug/L	266	BLOD	113	70-130	6.98	20	
<i>Surr: Acetylene (Surr)</i>	712		ug/L	432		165	70-130			S
<i>Surr: Acetylene (Surr)</i>	712		ug/L	432		165	70-130			S

### Batch BFD0022 - SW5030B-MS

Blank (BFD0022-BLK1)		Prepared & Analyzed: 04/01/2022								
Ethane	ND	5.00	ug/L							
Methane	ND	5.0	ug/L							
Ethane	ND	5.0	ug/L							
Ethene	ND	5.00	ug/L							
Methane	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	416		ug/L	432		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	416		ug/L	432		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	416		ug/L	432		96.2	70-130			

LCS (BFD0022-BS1)		Prepared & Analyzed: 04/01/2022								
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Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0022 - SW5030B-MS

**LCS (BFD0022-BS1)**

Prepared & Analyzed: 04/01/2022

Ethane	492	5.00	ug/L	500		98.5	70-130			
Ethane	492	5.0	ug/L	500		98.5	70-130			
Methane	252	5.0	ug/L	266		94.9	70-130			
Ethene	441	5.00	ug/L	464		95.0	70-130			
Methane	252	5.00	ug/L	266		94.9	70-130			
<i>Surr: Acetylene (Surr)</i>	403		ug/L	432		93.3	70-130			
<i>Surr: Acetylene (Surr)</i>	403		ug/L	432		93.3	70-130			
<i>Surr: Acetylene (Surr)</i>	403		ug/L	432		93.3	70-130			

**Duplicate (BFD0022-DUP1)**

Source: 22C1525-07

Prepared & Analyzed: 04/01/2022

Ethane	ND	5.0	ug/L		BLOD			NA	20	
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.0	ug/L		1900			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.00	ug/L		1900			NA	20	
<i>Surr: Acetylene (Surr)</i>	468		ug/L	432		108	70-130			
<i>Surr: Acetylene (Surr)</i>	468		ug/L	432		108	70-130			
<i>Surr: Acetylene (Surr)</i>	468		ug/L	432		108	70-130			

**Matrix Spike (BFD0022-MS1)**

Source: 22C1525-07

Prepared & Analyzed: 04/01/2022

Methane	2110	5.0	ug/L	266	1900	78.6	70-130			
Ethane	632	5.00	ug/L	500	BLOD	126	70-130			
Ethane	632	5.0	ug/L	500	BLOD	126	70-130			
Ethene	564	5.00	ug/L	464	BLOD	122	70-130			
Methane	2110	5.00	ug/L	266	1900	78.6	70-130			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:26:04PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0022 - SW5030B-MS

**Matrix Spike (BFD0022-MS1)**

Source: 22C1525-07

Prepared & Analyzed: 04/01/2022

<i>Surr: Acetylene (Surr)</i>	534		ug/L	432		124	70-130			
<i>Surr: Acetylene (Surr)</i>	534		ug/L	432		124	70-130			
<i>Surr: Acetylene (Surr)</i>	534		ug/L	432		124	70-130			

**Matrix Spike Dup (BFD0022-MSD1)**

Source: 22C1525-07

Prepared & Analyzed: 04/01/2022

Ethane	633	5.0	ug/L	500	BLOD	127	70-130	0.0522	20	
Ethane	633	5.00	ug/L	500	BLOD	127	70-130	0.0522	20	
Methane	2060	5.0	ug/L	266	1900	61.1	70-130	2.23	20	M
Ethene	564	5.00	ug/L	464	BLOD	122	70-130	0.0177	20	
Methane	2060	5.00	ug/L	266	1900	61.1	70-130	2.23	20	M
<i>Surr: Acetylene (Surr)</i>	539		ug/L	432		125	70-130			
<i>Surr: Acetylene (Surr)</i>	539		ug/L	432		125	70-130			
<i>Surr: Acetylene (Surr)</i>	539		ug/L	432		125	70-130			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:26:04PM

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFC1192 - No Prep IC</b>										
<b>Blank (BFC1192-BLK1)</b>				Prepared & Analyzed: 03/31/2022						
Sulfate	ND	1.0	mg/L							
Chloride	ND	1.0	mg/L							
<b>LCS (BFC1192-BS1)</b>				Prepared & Analyzed: 03/31/2022						
Sulfate	19.8	1	mg/L	20.0		99.1	90-110			
Chloride	18.8	1	mg/L	20.0		94.0	90-110			
<b>LCS Dup (BFC1192-BSD1)</b>				Prepared & Analyzed: 03/31/2022						
Chloride	18.7	1	mg/L	20.0		93.4	90-110	0.603	15	
Sulfate	20.0	1	mg/L	20.0		99.8	90-110	0.679	15	
<b>Matrix Spike (BFC1192-MS1)</b>				<b>Source: 22C1439-05</b>		Prepared & Analyzed: 03/31/2022				
Chloride	18.8	1.1	mg/L	11.1	8.2	96.0	90-110			
Sulfate	18.9	1.1	mg/L	11.1	8.2	96.1	90-110			
<b>Matrix Spike (BFC1192-MS2)</b>				<b>Source: 22C1525-01</b>		Prepared & Analyzed: 04/01/2022				
Chloride	81.6	1.1	mg/L	11.1	67.0	131	90-110			M
Sulfate	14.5	1.1	mg/L	11.1	2.3	110	90-110			
<b>Matrix Spike Dup (BFC1192-MSD1)</b>				<b>Source: 22C1439-05</b>		Prepared & Analyzed: 03/31/2022				
Sulfate	19.3	1.1	mg/L	11.1	8.2	99.7	90-110	2.06	15	
Chloride	19.2	1.1	mg/L	11.1	8.2	99.1	90-110	1.80	15	
<b>Matrix Spike Dup (BFC1192-MSD2)</b>				<b>Source: 22C1525-01</b>		Prepared & Analyzed: 04/01/2022				
Chloride	82.2	1.1	mg/L	11.1	67.0	136	90-110	0.688	15	M
Sulfate	14.7	1.1	mg/L	11.1	2.3	111	90-110	1.13	15	M

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0029 - No Prep Wet Chem</b>										
<b>Blank (BFD0029-BLK1)</b>				Prepared & Analyzed: 03/31/2022						
Nitrite as N	ND	0.05	mg/L							
<b>LCS (BFD0029-BS1)</b>				Prepared & Analyzed: 03/31/2022						
Nitrite as N	0.10	0.05	mg/L	0.100		98.0	80-120			
<b>Matrix Spike (BFD0029-MS1)</b>				Source: 22C1455-03		Prepared & Analyzed: 03/31/2022				
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	99.0	80-120			
<b>Matrix Spike Dup (BFD0029-MSD1)</b>				Source: 22C1455-03		Prepared & Analyzed: 03/31/2022				
Nitrite as N	0.10	0.05	mg/L	0.100	BLOD	101	80-120	2.00	20	
<b>Batch BFD0050 - No Prep Wet Chem</b>										
<b>Blank (BFD0050-BLK1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	ND	1.00	mg/L							
<b>LCS (BFD0050-BS1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	4.91	1	mg/L	5.00		98.2	80-120			
<b>LCS Dup (BFD0050-BSD1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	4.79	1	mg/L	5.00		95.8	80-120	2.47	20	
<b>Matrix Spike (BFD0050-MS1)</b>				Source: 22C1547-01		Prepared & Analyzed: 04/02/2022				
Sulfide	4.89	1.00	mg/L	5.00	BLOD	97.8	75-125			
<b>Matrix Spike Dup (BFD0050-MSD1)</b>				Source: 22C1547-01		Prepared & Analyzed: 04/02/2022				
Sulfide	4.71	1.00	mg/L	5.00	BLOD	94.2	75-125	3.75	20	

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0057 - No Prep IC</b>										
<b>Blank (BFD0057-BLK1)</b>				Prepared & Analyzed: 04/04/2022						
Chloride	ND	1.0	mg/L							
Sulfate	ND	1.0	mg/L							
<b>LCS (BFD0057-BS1)</b>				Prepared & Analyzed: 04/04/2022						
Chloride	19.0	1	mg/L	20.0		94.8	90-110			
Sulfate	19.5	1	mg/L	20.0		97.5	90-110			
<b>LCS Dup (BFD0057-BSD1)</b>				Prepared & Analyzed: 04/04/2022						
Sulfate	19.8	1	mg/L	20.0		98.9	90-110	1.45	15	
Chloride	18.5	1	mg/L	20.0		92.6	90-110	2.39	15	
<b>Matrix Spike (BFD0057-MS1)</b>				<b>Source: 22C1295-01</b>		Prepared & Analyzed: 04/04/2022				
Sulfate	757	11.1	mg/L	111	642	103	90-110			
Chloride	812	11.1	mg/L	111	697	104	90-110			
<b>Matrix Spike Dup (BFD0057-MSD1)</b>				<b>Source: 22C1295-01</b>		Prepared & Analyzed: 04/04/2022				
Chloride	805	11.1	mg/L	111	697	97.2	90-110	0.878	15	
Sulfate	755	11.1	mg/L	111	642	102	90-110	0.147	15	
<b>Batch BFD0129 - No Prep Wet Chem</b>										
<b>Blank (BFD0129-BLK1)</b>				Prepared & Analyzed: 04/05/2022						
Alkalinity	ND	5.0	mg/L							
<b>LCS (BFD0129-BS1)</b>				Prepared & Analyzed: 04/05/2022						
Alkalinity	50.0	5.0	mg/L	50.0		100	80-120			



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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0129 - No Prep Wet Chem</b>										
<b>Duplicate (BFD0129-DUP1)</b>		<b>Source: 22C1295-01</b>		<b>Prepared &amp; Analyzed: 04/05/2022</b>						
Alkalinity	390	5.0	mg/L		395			1.27	20	
<b>Batch BFD0174 - No Prep Wet Chem</b>										
<b>Blank (BFD0174-BLK1)</b>				<b>Prepared &amp; Analyzed: 04/05/2022</b>						
Alkalinity	ND	5.0	mg/L							
<b>LCS (BFD0174-BS1)</b>				<b>Prepared &amp; Analyzed: 04/05/2022</b>						
Alkalinity	54.0	5.0	mg/L	50.0		108	80-120			
<b>Duplicate (BFD0174-DUP1)</b>		<b>Source: 22C1416-03</b>		<b>Prepared &amp; Analyzed: 04/05/2022</b>						
Alkalinity	228	5.0	mg/L		230			0.873	20	
<b>Batch BFD0192 - No Prep Wet Chem</b>										
<b>Blank (BFD0192-BLK1)</b>				<b>Prepared &amp; Analyzed: 04/06/2022</b>						
Nitrate+Nitrite as N	ND	0.10	mg/L							
<b>LCS (BFD0192-BS1)</b>				<b>Prepared &amp; Analyzed: 04/06/2022</b>						
Nitrate+Nitrite as N	2.59	0.1	mg/L	2.50		104	90-110			
<b>Matrix Spike (BFD0192-MS1)</b>		<b>Source: 22C1254-01</b>		<b>Prepared &amp; Analyzed: 04/06/2022</b>						
Nitrate+Nitrite as N	3.83	0.1	mg/L	2.50	1.33	100	90-110			
<b>Matrix Spike Dup (BFD0192-MSD1)</b>		<b>Source: 22C1254-01</b>		<b>Prepared &amp; Analyzed: 04/06/2022</b>						
Nitrate+Nitrite as N	3.83	0.1	mg/L	2.50	1.33	100	90-110	0.0261	20	

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### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.2/R2.8</b>		
22C1525-05	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
22C1525-06	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
22C1525-07	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
22C1525-08	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.8 R5.4</b>		
22C1525-09	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-10	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-11	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-12	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-13	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-14	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-15	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-16	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-17	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-18	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-19	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1525-20	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep IC</b>		
22C1525-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
22C1525-02	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
22C1525-03	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130

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Date Issued: 4/6/2022 5:26:04PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
22C1525-04	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
22C1525-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
22C1525-02	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
22C1525-03	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
22C1525-04	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
22C1525-01	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1525-02	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1525-03	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1525-04	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1525-01	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0129	SFD0139	
22C1525-02	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0129	SFD0139	
22C1525-03	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0174	SFD0182	
22C1525-04	200 mL / 200 mL	SM22 2320B-2011	BFD0174	SFD0182	
22C1525-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
22C1525-02	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
22C1525-03	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
22C1525-04	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22C1525-01	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-02	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-03	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-11	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22C1525-12	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-13	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-14	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-15	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-16	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-18	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
22C1525-11	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-12	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-13	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-14	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-15	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-16	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-18	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFD0025	AC20195
22C1525-05	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-06	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-07	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-08	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-09	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-10	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-17	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-19	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-20	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-21	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-22	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-23	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1525-03RE1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-04	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-05	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-06	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method: SW5030B-MS</b>		
22C1525-07	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-08	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-09	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-10	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-17	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-19	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-20	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-21	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-22	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
22C1525-23	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7470A</b>		
22C1525-21	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1525-22	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016

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### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2/R2.8</b>	
BFD0018-BLK1	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
BFD0018-BS1	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
BFD0018-MS1	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012
BFD0018-MSD1	50.0 mL / 50.0 mL	SW6010D	BFD0018	SFD0075	AD20012

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.8 R5.4</b>	
BFD0019-BLK1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-BS1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MS1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MS2	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MSD1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MSD2	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
BFC1192-BLK1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-BS1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-BSD1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-MS1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-MS2	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-MSD1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130
BFC1192-MSD2	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFC1192	SFD0066	AB20130



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
BFD0057-BLK1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130
BFD0057-BS1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130
BFD0057-BSD1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130
BFD0057-MS1	0.450 mL / 5.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130
BFD0057-MSD1	0.450 mL / 5.00 mL	EPA300.0 R2.1	BFD0057	SFD0112	AB20130

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFD0029-BLK1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
BFD0029-BS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
BFD0029-MRL1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
BFD0029-MS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
BFD0029-MSD1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFD0029	SFD0036	AB20093
BFD0050-BLK1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-BS1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-BSD1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MRL1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MS1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MSD1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0129-BLK1	200 mL / 200 mL	SM22 2320B-2011	BFD0129	SFD0139	
BFD0129-BS1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0129	SFD0139	
BFD0129-DUP1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0129	SFD0139	
BFD0129-MRL1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0129	SFD0139	
BFD0174-BLK1	200 mL / 200 mL	SM22 2320B-2011	BFD0174	SFD0182	
BFD0174-BS1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0174	SFD0182	
BFD0174-DUP1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFD0174	SFD0182	
BFD0192-BLK1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
BFD0192-BS1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFD0192-MRL1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
BFD0192-MS1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031
BFD0192-MSD1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFD0192	SFD0192	AD20031

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFC1248-BLK1	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
BFC1248-BS1	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
BFC1248-DUP1	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
BFC1248-MS1	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
BFC1248-MSD1	5.00 mL / 5.00 mL	RSK175M	BFC1248	SFC1193	AB20185
BFC1271-BLK1	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFC1216	AC20195
BFC1271-BS1	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFC1216	AC20195
BFC1271-MS1	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFC1216	AC20195
BFC1271-MSD1	5.00 mL / 5.00 mL	SW8260D	BFC1271	SFC1216	AC20195
BFD0021-BLK1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-BS1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-MS1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-MSD1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0022-BLK1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
BFD0022-BS1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
BFD0022-DUP1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
BFD0022-MRL1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
BFD0022-MS1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185
BFD0022-MSD1	5.00 mL / 5.00 mL	RSK175M	BFD0022	SFD0027	AB20185

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW7470A</b>	
BFD0058-BLK1	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
BFD0058-BS1	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MS1		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MS2		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MSD1		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MSD2		SW7470A	BFD0058	SFD0092	AD20016

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>EPA300.0 R2.1 in Non-Potable Water</i></b>	
Chloride	VELAP,NCDEQ,PADEP,WVDEP
Sulfate	VELAP,NCDEQ,WVDEP
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
Methane	VELAP
Ethene	VELAP
Methane	VELAP
<b><i>SM22 2320B-2011 in Non-Potable Water</i></b>	
Alkalinity	VELAP,PADEP,WVDEP,NHDES,MADEP
<b><i>SM22 4500-NO2B-2011 in Non-Potable Water</i></b>	
Nitrite as N	VELAP,WVDEP,NHDES
<b><i>SM22 4500-NO3F-2011 in Non-Potable Water</i></b>	
Nitrate+Nitrite as N	VELAP,WVDEP,NHDES,MADEP
<b><i>SW6010D in Non-Potable Water</i></b>	
Cobalt	VELAP,WVDEP,NHDES
<b><i>SW6020B in Non-Potable Water</i></b>	
Cobalt	VELAP,WVDEP,NHDES
<b><i>SW7470A in Non-Potable Water</i></b>	
Mercury	VELAP,NCDEQ,WVDEP,NHDES
<b><i>SW8260D in Non-Potable Water</i></b>	
1,1-Dichloroethane	NCDEQ,WVDEP,VELAP
Chloroethane	NCDEQ,WVDEP,VELAP
cis-1,2-Dichloroethylene	NCDEQ,WVDEP,VELAP
Naphthalene	NCDEQ,WVDEP,VELAP

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

### Certified Analyses included in this Report

Analyte	Certifications
trans-1,2-Dichloroethylene	NCDEQ, WVDEP, VELAP
Trichloroethylene	NCDEQ, WVDEP, VELAP
Vinyl chloride	NCDEQ, WVDEP, VELAP
<b>SW9215 in Non-Potable Water</b>	
Sulfide	VELAP

Code	Description	Laboratory ID	Expires
MADEP	Massachusetts DEP	M-VA913	06/30/2022
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NC	North Carolina DENR	495	07/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NCDOH	North Carolina Department of Health	51714	07/31/2022
NJDEP	NELAP-New Jersey DEP	VA015	06/30/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2022
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #11739	460021	06/14/2022

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

### 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
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 REYMET ROAD  
 RICHMOND, VIRGINIA 23237  
 (804) 358-8295 PHONE  
 (804)358-8297 FAX

Chain of Custody  
 Effective: Mar 10, 2021

**CHAIN OF CUSTODY**

COMPANY NAME: WSP Consulting INVOICE TO: Culpeper County PROJECT NAME/Quote #:  
 CONTACT: Michelle Clary INVOICE CONTACT: P. Howard SITE NAME: Laurel Valley Corrective Acti-  
 ADDRESS: 2108 W. Latham Ave 200 INVOICE ADDRESS: PROJECT NUMBER:  
 PHONE #: (804) 934-1782 INVOICE PHONE #:  
 FAX #:  
 EMAIL: Michelle.Clary@wsp.com P.O. #:  
 Is sample for compliance reporting? YES  NO  Is sample from a chlorinated supply? YES  NO  Pretreatment Program:  
 SAMPLER NAME (PRINT): D. Thomas SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Day(s)  
 PWS I.D. #:

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/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		
											Nitrate/Nitrite	Alkalinity	Chloride	Metham	Syph		Su.H.d	Etham
1) MW-X2	X					3/30/22 1055			Can	6	X	X	X	X	X	X		
2) CLE-15A	X					3/30/22 1220			Can	6	X	X	X	X	X	X		
3) PR-4E	X					3/30/22 1315			Can	6	X	X	X	X	X	X		
4) MW-20	X					3/30/22 1040			Can	6	X	X	X	X	X	X		
5)																		
6)																		
7)																		
8)																		
9)																		
10)																		

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)  
 All Samples preserved on ice  
 Laurel V. Data package  
 2014572921

RELINQUISHED: DATE / TIME RECEIVED: DATE / TIME  
3/30/22 0800 MM 3/30/22  
 INQUIRED: DATE / TIME RECEIVED: DATE / TIME  
3/30/22 0800 MM 3/30/22  
 INQUIRED: DATE / TIME RECEIVED: DATE / TIME  
 \_\_\_\_\_

LAB USE ONLY Therm ID: 271 COOLER TEMP 0.5 °C  
 Custody Seals used and intact? (Y/N) Y  
 Received on Ice? (Y/N) Y

**GA 22C1525**  
**Laurel Valley Corrective Action**  
**Recd: 03/30/2022 Due: 04/06/2022**

**CHAIN OF CUSTODY**

COMPANY NAME: WSP Gro/lor INVOICE TO: Clasper Candy PROJECT NAME/Quote #: \_\_\_\_\_  
 CONTACT: Michelle Clary INVOICE CONTACT: P. Howard SITE NAME: Laurel Valley Corrective Actia  
 ADDRESS: 2108 W. Laburnum Ave. St. 200 INVOICE ADDRESS: \_\_\_\_\_ PROJECT NUMBER: \_\_\_\_\_  
 PHONE #: (804)934-1782 INVOICE PHONE #: \_\_\_\_\_ P.O. #: \_\_\_\_\_  
 FAX #: \_\_\_\_\_ EMAIL: Michelle.Clary@wsp.com Pretreatment Program: \_\_\_\_\_

Is sample for compliance reporting? YES  NO  Regulatory State: VA Is sample from a chlorinated supply? YES  NO  PWS I.D. #: \_\_\_\_\_  
 SAMPLER NAME (PRINT): D. Thomas SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/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	
											1,1-dichloroethane	Napthalene	Chlorobenzene	Ethene	Ethene	Trichloroethane		Vinyl Chloride
1) MW-4	X			3/28/22	1415				GW	7	X	X	X	X	X	X		
2) MW-6	X			3/28/22	1355				GW	7	X	X	X	X	X	X		
3) MW-X1	X			3/28/22	1440				GW	7	X	X	X	X	X	X		
4) CLF-1	X			3/28/22	1250				GW	7	X	X	X	X	X	X		
5) MW-1B	X			3/28/22	1515				GW	7	X	X	X	X	X	X		
6) MW-1C	X			3/28/22	1420				GW	7	X	X	X	X	X	X		
7) MW-1D	X			3/29/22	1126				GW	7	X	X	X	X	X	X		
8) MW-1E	X			3/29/22	1245				GW	7	X	X	X	X	X	X		
9) MW-1F	X			3/29/22	1330				GW	7	X	X	X	X	X	X		
10) MW-1G	X			3/29/22	1020				GW	7	X	X	X	X	X	X		

RELINQUISHED: [Signature] DATE / TIME: 3/30/22 01624 RECEIVED: MM DATE / TIME: 3/30/22 1020  
 INQUIRED: \_\_\_\_\_ DATE / TIME: \_\_\_\_\_ RECEIVED: \_\_\_\_\_ DATE / TIME: \_\_\_\_\_  
 INQUIRED: \_\_\_\_\_ DATE / TIME: \_\_\_\_\_ RECEIVED: \_\_\_\_\_ DATE / TIME: \_\_\_\_\_

LAB USE ONLY Therm ID: 277 COOLER TEMP: 0.5 °C  
 Custody Seals used and intact? (Y/N) \_\_\_\_\_ Received on ice? (Y/N) \_\_\_\_\_  
**GA** **22C1525**  
**Laurel Valley Corrective Action**  
**Recd: 03/30/2022 Due: 04/06/2022**



1941 REYMET ROAD  
 RICHMOND, VIRGINIA 23237  
 (804) 358-8295 PHONE  
 (804)358-8297 FAX

Chain of Custody  
 Effective: Mar 10, 2021

**CHAIN OF CUSTODY**

COMPANY NAME: WSP Grader INVOICE TO: Culpeper County PROJECT NAME/Quote #:  
 CONTACT: Michelle Clary INVOICE CONTACT: P. Howard SITE NAME: Level Valley Corrective Act'n  
 ADDRESS: 2107 W. Leburn Ave. 2nd INVOICE ADDRESS:  
 PHONE #: (804) 934-1782 INVOICE PHONE #:  
 FAX #:  
 EMAIL: Michelle.Clary@WSP.com  
 Is sample for compliance reporting? YES  NO  Regulatory State: VA Is sample from a chlorinated supply? YES  NO  PWS I.D. #:  
 SAMPLER NAME (PRINT): D. Thomas SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Day(s)

CLIENT SAMPLE I.D.	Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other		Grab Date or Composite Stop Date	Composite Start Time	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)							COMMENTS	
	Grab	Composite							Field Filtered (Dissolved Metals)	Composite	Composite	Composite	Composite	Composite	Composite		Composite
1) MW-1H	X		3/24/22		1435		GW	7	X	X	X	X	X	X	X	X	Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol
2) MW-1I	X		3/24/22		0715		GW	7	X	X	X	X	X	X	X	X	PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
3) MW-2B	X		3/24/22		1500		GW	7	X	X	X	X	X	X	X	X	All Samples Preserved in Ice
4) MW-3	X		3/24/22		1105		GW	7	X	X	X	X	X	X	X	X	Level of Data
5) MW-3A	X		3/24/22		0920		GW	7	X	X	X	X	X	X	X	X	packaging
6) MW-5	X		3/23/22		1220		GW	7	X	X	X	X	X	X	X	X	2014572921
7)																	
8)																	
9)																	
10)																	

RELINQUISHED: [Signature] DATE / TIME: 3/30/22 1020 RECEIVED: MM  
 INQUIRED: [Signature] DATE / TIME: 3/30/22 1020 RECEIVED: MM  
 INQUIRED: [Signature] DATE / TIME: 3/30/22 1020 RECEIVED: MM

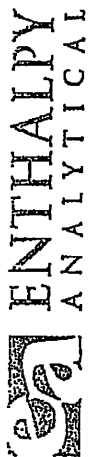
QC Data Package  
 Level III  Level IV

LAB USE ONLY Therm ID: 277 COOLER TEMP 0.5 °C  
 Custody Seals used and intact? (Y/N)

**GA 22C1525**  
**Laurel Valley Corrective Action**  
**Recd: 03/30/2022 Due: 04/06/2022**







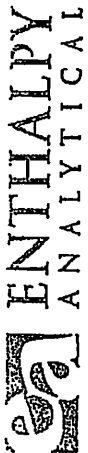
# Sample Preservation Log

Order ID: 22C1525 Date Performed: 3/31/22 Analyst Performing Check: AWR

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8051/808/808) PCB DW only		SVOC (424827/625)		CrVI * **		Pest/PCB (806) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received	Final	Received	Final	pH as Received	Final	pH as Received	Final	
01	E																													
01	F																													
02	E																													
02	F																													
03	E																													
03	F																													
04	E																													
04	F																													
05	A																													
06	A																													
07	A																													
08	A																													
09	A																													
10	A																													
11	A																													

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Na2SO3 ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ Na2SO3 ID: \_\_\_\_\_ 6N NaOH: \_\_\_\_\_

CVI preserved date/time: \_\_\_\_\_  
 \*pH must be adjusted between 9.3 - 9.7  
 Buffer Sol'n ID: \_\_\_\_\_  
 1N NaOH ID: \_\_\_\_\_



# Sample Preservation Log

Order ID: 22C1525 Date Performed: 3/31/22 Analyst Performing Check: WMS

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (6081/6089/608) PCB DW only		SVOC (625/270/625)		CrVI **		Pest/PCB (608) / SVOC(625)		pH as Received		pH as Received			
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -	Res. Cl	Final + or -
12	A	5.2																													
13	A																														
14	A																														
15	A																														
16	A																														
17	A																														
18	A																														
19	A																														
20	A																														
21	A																														
22	A																														

Metals were received with pH = 5. HNO3 was added at 15.45 on 31 Mar 2022 by M. Rebecca Stevens in the Log-In room to bring pH = <2.

NaOH ID: \_\_\_\_\_ HNO3 ID: 2302648 Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

\*\*WVa only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.



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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:26:04PM

## Sample Conditions Checklist

Samples Received at:	0.50°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?	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

Received trip blanks (03.23.22 1400) added to work order. Michele Clary notified via email. MRS 04.01.22 0940



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

### Certificate of Analysis

*Final Report*

Laboratory Order ID 22C1547

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: March 30, 2022 16:10  
Date Issued: April 6, 2022 17:59  
Project Number: [none]  
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 03/30/2022 16:10. 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.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Laboratory Sample ID: **22C1547-01**                      Client Sample ID: **MW-1B**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6020B	177		1.00	5.00	1	ug/L
Cadmium	01	SW6020B	3.12		0.100	1.00	1	ug/L
Cobalt	01	SW6020B	12.3		0.200	1.00	1	ug/L
Copper	01	SW6020B	2.95		0.300	1.00	1	ug/L
Mercury	01	SW7470A	0.00023		0.00020	0.00020	1	mg/L
Nickel	01	SW6020B	5.403		1.000	1.000	1	ug/L
Zinc	01	SW6020B	5.46		2.50	5.00	1	ug/L
1,1-Dichloroethane	01	SW8260D	5.30		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260D	4.16		0.40	1.00	1	ug/L
Benzene	01	SW8260D	1.43		0.40	1.00	1	ug/L
Chlorobenzene	01	SW8260D	2.63		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	5.42		0.40	1.00	1	ug/L
Naphthalene	01	SW8270E	0.11	B	0.10	0.10	1	ug/L

### Analysis Detects Report

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

**Laboratory Sample ID: 22C1547-02**                      **Client Sample ID: MW-2B**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02RE1	SW6020B	258		10.0	50.0	10	ug/L
Cobalt	02	SW6020B	24.5		0.200	1.00	1	ug/L
Nickel	02	SW6020B	63.60		1.000	1.000	1	ug/L
1,1-Dichloroethane	02	SW8260D	3.00		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260D	1.40		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	14.4		0.40	1.00	1	ug/L
Benzene	02	SW8260D	1.89		0.40	1.00	1	ug/L
Chlorobenzene	02	SW8260D	14.3		0.40	1.00	1	ug/L
Chloroethane	02	SW8260D	0.91	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	4.18		0.40	1.00	1	ug/L
Trichloroethylene	02	SW8260D	1.29		0.40	1.00	1	ug/L
Naphthalene	02	SW8270E	0.13		0.10	0.10	1	ug/L

**Laboratory Sample ID: 22C1547-03**                      **Client Sample ID: MW-3A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03	SW6020B	158		1.00	5.00	1	ug/L
Beryllium	03	SW6020B	0.594	J	0.200	1.00	1	ug/L
Cadmium	03	SW6020B	0.154	J	0.100	1.00	1	ug/L
Chromium	03	SW6020B	0.471	J	0.400	1.00	1	ug/L
Cobalt	03	SW6020B	14.0		0.200	1.00	1	ug/L
Copper	03	SW6020B	4.19		0.300	1.00	1	ug/L
Nickel	03	SW6020B	2.282		1.000	1.000	1	ug/L
Selenium	03	SW6020B	1.14		0.850	1.00	1	ug/L
Zinc	03	SW6020B	16.1		2.50	5.00	1	ug/L
Cyanide	03	SW9012B	0.01		0.01	0.01	1	mg/L

### Analysis Detects Report

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

**Laboratory Sample ID: 22C1547-04**                      **Client Sample ID: MW-4**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6020B	42.6		1.00	5.00	1	ug/L
Chromium	04	SW6020B	0.451	J	0.400	1.00	1	ug/L
Cobalt	04	SW6020B	32.9		0.200	1.00	1	ug/L
Copper	04	SW6020B	0.749	J	0.300	1.00	1	ug/L
Nickel	04	SW6020B	12.36		1.000	1.000	1	ug/L
Zinc	04	SW6020B	9.34		2.50	5.00	1	ug/L
1,1-Dichloroethane	04	SW8260D	0.71	J	0.60	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260D	2.80		0.40	1.00	1	ug/L
Benzene	04	SW8260D	0.67	J	0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260D	3.53		0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260D	0.53	J	0.40	1.00	1	ug/L
Naphthalene	04	SW8270E	0.15	B	0.10	0.10	1	ug/L

**Laboratory Sample ID: 22C1547-05**                      **Client Sample ID: MW-20**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6020B	12.2		1.00	5.00	1	ug/L
Copper	05	SW6020B	0.454	J	0.300	1.00	1	ug/L
Silver	05	SW6020B	0.0728	J	0.0600	1.00	1	ug/L
Zinc	05	SW6020B	3.45	J	2.50	5.00	1	ug/L
Naphthalene	05	SW8270E	0.11		0.10	0.10	1	ug/L

**Laboratory Sample ID: 22C1547-06**                      **Client Sample ID: Field Blank**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Naphthalene	06	SW8270E	0.12		0.10	0.10	1	ug/L

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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: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	22C1547-01	Ground Water	03/28/2022 13:15	03/30/2022 16:10
MW-2B	22C1547-02	Ground Water	03/28/2022 15:00 to 03/30/2022 15:00	03/30/2022 16:10
MW-3A	22C1547-03	Ground Water	03/29/2022 09:20	03/30/2022 16:10
MW-4	22C1547-04	Ground Water	03/28/2022 11:45	03/30/2022 16:10
MW-20	22C1547-05	Ground Water	03/30/2022 10:40	03/30/2022 16:10
Field Blank	22C1547-06	Ground Water	03/29/2022 11:45 to 03/30/2022 11:45	03/30/2022 16:10
Trip Blank	22C1547-07	Ground Water	03/23/2022 11:34	03/30/2022 16:10
Trip Blank	22C1547-08	Ground Water	03/23/2022 14:00	03/30/2022 16:10

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	01	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		0.0600	1.00	1	ug/L	RCV
Arsenic	01	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		0.50	1.0	1	ug/L	RCV
<b>Barium</b>	01	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 13:22	177		1.00	5.00	1	ug/L	RCV
Beryllium	01	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		0.200	1.00	1	ug/L	RCV
<b>Cadmium</b>	01	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:22	3.12		0.100	1.00	1	ug/L	RCV
<b>Cobalt</b>	01	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:22	12.3		0.200	1.00	1	ug/L	RCV
Chromium	01	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		0.400	1.00	1	ug/L	RCV
<b>Copper</b>	01	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:22	2.95		0.300	1.00	1	ug/L	RCV
<b>Mercury</b>	01	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:04	0.00023		0.00020	0.00020	1	mg/L	ARP
<b>Nickel</b>	01	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:22	5.403		1.000	1.000	1	ug/L	RCV
Lead	01	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	01	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		1.0	1.0	1	ug/L	RCV
Selenium	01	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		0.850	1.00	1	ug/L	RCV
Tin	01	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	01	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	01	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:22	BLOD		2.50	5.00	1	ug/L	RCV
<b>Zinc</b>	01	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:22	5.46		2.50	5.00	1	ug/L	RCV
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	01	71-55-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	01	79-00-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	1.00	1	ug/L	KCS
<b>1,1-Dichloroethane</b>	01	75-34-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	5.30		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	01	75-35-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.70	1.00	1	ug/L	KCS

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloropropene	01	563-58-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	01	96-18-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	01	120-82-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	01	95-50-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	01	107-06-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	01	78-87-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	01	541-73-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	01	142-28-9	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.00	1.00	1	ug/L	KCS
<b>1,4-Dichlorobenzene</b>	01	106-46-7	SW8260D	04/04/2022 11:12	04/04/2022 11:12	4.16		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	01	594-20-7	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	01	78-93-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	01	591-78-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	01	67-64-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	01	75-05-8	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	01	107-02-8	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	01	107-13-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	01	107-05-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	1.00	1	ug/L	KCS
<b>Benzene</b>	01	71-43-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	1.43		0.40	1.00	1	ug/L	KCS
Bromochloromethane	01	74-97-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	01	75-27-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	01	75-25-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	01	74-83-9	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	01	75-15-0	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		5.00	10.0	1	ug/L	KCS

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Carbon tetrachloride	01	56-23-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	1.00	1	ug/L	KCS
<b>Chlorobenzene</b>	01	108-90-7	SW8260D	04/04/2022 11:12	04/04/2022 11:12	2.63		0.40	1.00	1	ug/L	KCS
<b>Chloroethane</b>	01	75-00-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	1.81		0.70	1.00	1	ug/L	KCS
Chloroform	01	67-66-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	01	74-87-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	01	126-99-8	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	5.00	1	ug/L	KCS
<b>cis-1,2-Dichloroethylene</b>	01	156-59-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	5.42		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	01	124-48-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	01	74-95-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	01	75-71-8	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	01	97-63-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD	C	0.70	5.00	1	ug/L	KCS
Ethylbenzene	01	100-41-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	01	74-88-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		6.00	10.0	1	ug/L	KCS
Isobutyl Alcohol	01	78-83-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD	C	25.0	40.0	1	ug/L	KCS
m+p-Xylenes	01	179601-23-1	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	01	126-98-7	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.00	1.50	1	ug/L	KCS
Methyl methacrylate	01	80-62-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD	C	0.70	2.00	1	ug/L	KCS
Methylene chloride	01	75-09-2	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		4.00	4.00	1	ug/L	KCS
o-Xylene	01	95-47-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	01	107-12-0	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	01	100-42-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Toluene	01	108-88-3	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	01	79-01-6	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	01	75-69-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	01	108-05-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	01	75-01-4	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	01	1330-20-7	SW8260D	04/04/2022 11:12	04/04/2022 11:12	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	01	88.0 %	70-120	04/04/2022 11:12	04/04/2022 11:12							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	01	88.0 %	75-120	04/04/2022 11:12	04/04/2022 11:12							
<i>Surr: Dibromofluoromethane (Surr)</i>	01	98.8 %	70-130	04/04/2022 11:12	04/04/2022 11:12							
<i>Surr: Toluene-d8 (Surr)</i>	01	98.1 %	70-130	04/04/2022 11:12	04/04/2022 11:12							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	01	95-94-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
1,3,5-Trinitrobenzene	01	99-35-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	5.21	1	ug/L	MGG
1,3-Dinitrobenzene	01	99-65-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
1,4-Naphthoquinone	01	130-15-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
1-Naphthylamine	01	134-32-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	01	58-90-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
2,4,5-Trichlorophenol	01	95-95-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
2,4,6-Trichlorophenol	01	88-06-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	10.4	1	ug/L	MGG
2,4-Dichlorophenol	01	120-83-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
2,4-Dimethylphenol	01	105-67-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	5.21	1	ug/L	MGG
2,4-Dinitrophenol	01	51-28-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	52.1	1	ug/L	MGG
2,4-Dinitrotoluene	01	121-14-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		6.25	10.4	1	ug/L	MGG
2,6-Dichlorophenol	01	87-65-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
2,6-Dinitrotoluene	01	606-20-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
2-Acetylaminofluorene	01	53-96-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
2-Chloronaphthalene	01	91-58-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.69	10.4	1	ug/L	MGG
2-Chlorophenol	01	95-57-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
2-Methylnaphthalene	01	91-57-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
2-Naphthylamine	01	91-59-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
2-Nitroaniline	01	88-74-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	20.8	1	ug/L	MGG
2-Nitrophenol	01	88-75-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		6.25	10.4	1	ug/L	MGG
3,3'-Dichlorobenzidine	01	91-94-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
3,3'-Dimethylbenzidine	01	119-93-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
3-Methylcholanthrene	01	56-49-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
3-Nitroaniline	01	99-09-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	20.8	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	01	534-52-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	52.1	1	ug/L	MGG
4-Aminobiphenyl	01	92-67-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
4-Bromophenyl phenyl ether	01	101-55-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
4-Chloroaniline	01	106-47-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
4-Chlorophenyl phenyl ether	01	7005-72-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
4-Nitroaniline	01	100-01-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	20.8	1	ug/L	MGG
4-Nitrophenol	01	100-02-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	52.1	1	ug/L	MGG
5-Nitro-o-toluidine	01	99-55-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	01	57-97-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
Acenaphthene	01	83-32-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Acenaphthylene	01	208-96-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Acetophenone	01	98-86-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	20.8	1	ug/L	MGG
Anthracene	01	120-12-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	10.4	1	ug/L	MGG
Benzo (a) anthracene	01	56-55-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
Benzo (a) pyrene	01	50-32-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
Benzo (b) fluoranthene	01	205-99-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Benzo (g,h,i) perylene	01	191-24-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	10.4	1	ug/L	MGG
Benzo (k) fluoranthene	01	207-08-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		6.25	10.4	1	ug/L	MGG
Benzyl alcohol	01	100-51-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	20.8	1	ug/L	MGG
bis (2-Chloroethoxy) methane	01	111-91-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
bis (2-Chloroethyl) ether	01	111-44-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	01	108-60-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	5.21	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	01	85-68-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		7.29	10.4	1	ug/L	MGG
Chlorobenzilate	01	510-15-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Chrysene	01	218-01-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Diallate	01	2303-16-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Dibenz (a,h) anthracene	01	53-70-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	10.4	1	ug/L	MGG
Dibenzofuran	01	132-64-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	5.21	1	ug/L	MGG
Diethyl phthalate	01	84-66-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
Dimethoate	01	60-51-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Dimethyl phthalate	01	131-11-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
Di-n-butyl phthalate	01	84-74-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Di-n-octyl phthalate	01	117-84-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	10.4	1	ug/L	MGG
Diphenylamine	01	122-39-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
Disulfoton	01	298-04-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Ethyl methanesulfonate	01	62-50-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	20.8	1	ug/L	MGG
Ethyl parathion	01	56-38-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Famphur	01	52-85-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
Fluoranthene	01	206-44-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	10.4	1	ug/L	MGG
Fluorene	01	86-73-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.17	10.4	1	ug/L	MGG
Hexachlorobenzene	01	118-74-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	1.04	1	ug/L	MGG
Hexachlorobutadiene	01	87-68-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		4.69	10.4	1	ug/L	MGG
Hexachlorocyclopentadiene	01	77-47-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD	C	4.17	10.4	1	ug/L	MGG
Hexachloroethane	01	67-72-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
Hexachloropropene	01	1888-71-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Isodrin	01	465-73-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Isophorone	01	78-59-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		5.21	10.4	1	ug/L	MGG
Isosafrole	01	120-58-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
Kepone	01	143-50-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
m+p-Cresols	01	1319-77-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Methapyrilene	01	91-80-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Methyl methanesulfonate	01	66-27-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Methyl parathion	01	298-00-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
<b>Naphthalene</b>	01	91-20-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	0.11	B	0.10	0.10	1	ug/L	MGG
Nitrobenzene	01	98-95-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
n-Nitrosodiethylamine	01	55-18-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	2.60	1	ug/L	MGG
n-Nitrosodimethylamine	01	62-75-9	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
n-Nitrosodi-n-butylamine	01	924-16-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
n-Nitrosodi-n-propylamine	01	621-64-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.65	10.4	1	ug/L	MGG
n-Nitrosodiphenylamine	01	86-30-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
n-Nitrosomethylethylamine	01	10595-95-6	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
n-Nitrosopiperidine	01	100-75-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
n-Nitrosopyrrolidine	01	930-55-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	01	126-68-1	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	01	297-97-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
o+m+p-Cresols	01	1319-77-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		3.12	10.4	1	ug/L	MGG
o-Cresol	01	95-48-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	10.4	1	ug/L	MGG
o-Toluidine	01	95-53-4	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	01	60-11-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	2.60	1	ug/L	MGG
p-Chloro-m-cresol	01	59-50-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	10.4	1	ug/L	MGG
Pentachlorobenzene	01	608-93-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	01	82-68-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Phenacetin	01	62-44-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		1.04	10.4	1	ug/L	MGG
Phenanthrene	01	85-01-8	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		8.33	10.4	1	ug/L	MGG
Phenol	01	108-95-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.60	10.4	1	ug/L	MGG
Phorate	01	298-02-2	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
p-Phenylenediamine	01	106-50-3	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD	C	2.08	10.4	1	ug/L	MGG
Pronamide	01	23950-58-5	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	10.4	1	ug/L	MGG
Pyrene	01	129-00-0	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		7.29	10.4	1	ug/L	MGG
Safrole	01	94-59-7	SW8270E	04/04/2022 10:15	04/05/2022 00:28	BLOD		2.08	2.60	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	01	41.7 %	10-86	04/04/2022 10:15	04/05/2022 00:28							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	01	40.4 %	9-87	04/04/2022 10:15	04/05/2022 00:28							
<i>Surr: 2-Fluorophenol (Surr)</i>	01	26.7 %	10-52	04/04/2022 10:15	04/05/2022 00:28							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	01	42.4 %	10-98.5	04/04/2022 10:15	04/05/2022 00:28							
<i>Surr: Phenol-d5 (Surr)</i>	01	18.6 %	5-33	04/04/2022 10:15	04/05/2022 00:28							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	01	60.0 %	27-133	04/04/2022 10:15	04/05/2022 00:28							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	01	12674-11-2	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1221	01	11104-28-2	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1232	01	11141-16-5	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1242	01	53469-21-9	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1248	01	12672-29-6	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1254	01	11097-69-1	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
PCB as Aroclor 1260	01	11096-82-5	SW8082A	04/04/2022 13:00	04/05/2022 12:14	BLOD		0.160	0.213	1	ug/L	LBH2
<i>Surr: DCB</i>	<i>01</i>	<i>90.3 %</i>	<i>30-105</i>	<i>04/04/2022 13:00</i>	<i>04/05/2022 12:14</i>							
<i>Surr: TCMX</i>	<i>01</i>	<i>93.2 %</i>	<i>30-105</i>	<i>04/04/2022 13:00</i>	<i>04/05/2022 12:14</i>							
4,4'-DDD	01	72-54-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDE	01	72-55-9	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
4,4'-DDT	01	50-29-3	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Aldrin	01	309-00-2	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-BHC	01	319-84-6	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
alpha-Chlordane	01	5103-71-9	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
beta-BHC	01	319-85-7	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.021	0.053	1	ug/L	LBH2
Chlordane	01	57-74-9	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.213	0.213	1	ug/L	LBH2
delta-BHC	01	319-86-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Dieldrin	01	60-57-1	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan I	01	959-98-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan II	01	33213-65-9	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Endosulfan sulfate	01	1031-07-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin	01	72-20-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Endrin aldehyde	01	7421-93-4	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2

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Client Sample ID: MW-1B

Laboratory Sample ID: 22C1547-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	01	53494-70-5	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-BHC (Lindane)	01	58-89-9	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
gamma-Chlordane	01	5103-74-2	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor	01	76-44-8	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Heptachlor epoxide	01	1024-57-3	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Methoxychlor	01	72-43-5	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.005	0.053	1	ug/L	LBH2
Toxaphene	01	8001-35-2	SW8081B	04/04/2022 13:00	04/04/2022 19:11	BLOD		0.213	1.06	1	ug/L	LBH2
Surr: TCMX	01	88.0 %	18-112	04/04/2022 13:00	04/04/2022 19:11							
Surr: DCB	01	78.9 %	27-131	04/04/2022 13:00	04/04/2022 19:11							



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Laboratory Sample ID: **22C1547-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	01	93-76-5	SW8151A	04/04/2022 16:00	04/06/2022 10:46	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	01	93-72-1	SW8151A	04/04/2022 16:00	04/06/2022 10:46	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	01	94-75-7	SW8151A	04/04/2022 16:00	04/06/2022 10:46	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	01	88-85-7	SW8151A	04/04/2022 16:00	04/06/2022 10:46	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	01	87-86-5	SW8151A	04/04/2022 16:00	04/06/2022 10:46	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	<i>01</i>	<i>127 %</i>	<i>48.5-134</i>	<i>04/04/2022 16:00</i>	<i>04/06/2022 10:46</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
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 17:00	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	01	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 17:00	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 17:00	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
<b>Wet Chemistry Analysis</b>												
Cyanide	01	57-12-5	SW9012B	04/01/2022 15:56	04/01/2022 15:56	BLOD		0.01	0.01	1	mg/L	HMG
Sulfide	01	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	02	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.0600	1.00	1	ug/L	RCV
Arsenic	02	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.50	1.0	1	ug/L	RCV
<b>Barium</b>	02RE1	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 16:57	258		10.0	50.0	10	ug/L	RCV
Beryllium	02	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.200	1.00	1	ug/L	RCV
Cadmium	02	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.100	1.00	1	ug/L	RCV
<b>Cobalt</b>	02	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:24	24.5		0.200	1.00	1	ug/L	RCV
Chromium	02	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.400	1.00	1	ug/L	RCV
Copper	02	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.300	1.00	1	ug/L	RCV
Mercury	02	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:07	BLOD		0.00020	0.00020	1	mg/L	ARP
<b>Nickel</b>	02	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:24	63.60		1.000	1.000	1	ug/L	RCV
Lead	02	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	02	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		1.0	1.0	1	ug/L	RCV
Selenium	02	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		0.850	1.00	1	ug/L	RCV
Tin	02	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	02	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	02	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		2.50	5.00	1	ug/L	RCV
Zinc	02	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:24	BLOD		2.50	5.00	1	ug/L	RCV

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Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	02	71-55-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	02	79-00-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	1.00	1	ug/L	KCS
<b>1,1-Dichloroethane</b>	02	75-34-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	3.00		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	02	75-35-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	02	563-58-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	02	96-18-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	02	120-82-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	1.00	1	ug/L	KCS
<b>1,2-Dichlorobenzene</b>	02	95-50-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	1.40		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	02	107-06-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	02	78-87-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	02	541-73-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	02	142-28-9	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.00	1.00	1	ug/L	KCS
<b>1,4-Dichlorobenzene</b>	02	106-46-7	SW8260D	04/04/2022 11:36	04/04/2022 11:36	14.4		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	02	594-20-7	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	02	78-93-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	02	591-78-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	02	67-64-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	02	75-05-8	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	02	107-02-8	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	02	107-13-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	02	107-05-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	1.00	1	ug/L	KCS

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>Benzene</b>	02	71-43-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	1.89		0.40	1.00	1	ug/L	KCS
Bromochloromethane	02	74-97-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	02	75-27-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	02	75-25-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	02	74-83-9	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	02	75-15-0	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	02	56-23-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	1.00	1	ug/L	KCS
<b>Chlorobenzene</b>	02	108-90-7	SW8260D	04/04/2022 11:36	04/04/2022 11:36	14.3		0.40	1.00	1	ug/L	KCS
<b>Chloroethane</b>	02	75-00-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	0.91	J	0.70	1.00	1	ug/L	KCS
Chloroform	02	67-66-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	02	74-87-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	02	126-99-8	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	5.00	1	ug/L	KCS
<b>cis-1,2-Dichloroethylene</b>	02	156-59-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	4.18		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	02	124-48-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	02	74-95-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	02	75-71-8	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	02	97-63-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD	C	0.70	5.00	1	ug/L	KCS
Ethylbenzene	02	100-41-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	02	74-88-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		6.00	10.0	1	ug/L	KCS
Isobutyl Alcohol	02	78-83-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD	C	25.0	40.0	1	ug/L	KCS
m+p-Xylenes	02	179601-23-1	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	02	126-98-7	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.00	1.50	1	ug/L	KCS



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	02	80-62-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD	C	0.70	2.00	1	ug/L	KCS
Methylene chloride	02	75-09-2	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		4.00	4.00	1	ug/L	KCS
o-Xylene	02	95-47-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	02	107-12-0	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	02	100-42-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	02	108-88-3	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.00	4.00	1	ug/L	KCS
<b>Trichloroethylene</b>	02	79-01-6	SW8260D	04/04/2022 11:36	04/04/2022 11:36	1.29		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	02	75-69-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	02	108-05-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	02	75-01-4	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	02	1330-20-7	SW8260D	04/04/2022 11:36	04/04/2022 11:36	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	02	85.1 %	70-120	04/04/2022 11:36	04/04/2022 11:36							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	02	86.5 %	75-120	04/04/2022 11:36	04/04/2022 11:36							
<i>Surr: Dibromofluoromethane (Surr)</i>	02	94.5 %	70-130	04/04/2022 11:36	04/04/2022 11:36							
<i>Surr: Toluene-d8 (Surr)</i>	02	94.9 %	70-130	04/04/2022 11:36	04/04/2022 11:36							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	02	95-94-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
1,3,5-Trinitrobenzene	02	99-35-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	5.00	1	ug/L	MGG
1,3-Dinitrobenzene	02	99-65-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
1,4-Naphthoquinone	02	130-15-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
1-Naphthylamine	02	134-32-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	02	58-90-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
2,4,5-Trichlorophenol	02	95-95-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
2,4,6-Trichlorophenol	02	88-06-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	10.0	1	ug/L	MGG
2,4-Dichlorophenol	02	120-83-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
2,4-Dimethylphenol	02	105-67-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	4.76	1	ug/L	MGG
2,4-Dinitrophenol	02	51-28-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	50.0	1	ug/L	MGG
2,4-Dinitrotoluene	02	121-14-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		5.71	10.0	1	ug/L	MGG
2,6-Dichlorophenol	02	87-65-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
2,6-Dinitrotoluene	02	606-20-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
2-Acetylaminofluorene	02	53-96-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
2-Chloronaphthalene	02	91-58-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.29	10.0	1	ug/L	MGG
2-Chlorophenol	02	95-57-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
2-Methylnaphthalene	02	91-57-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
2-Naphthylamine	02	91-59-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
2-Nitroaniline	02	88-74-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	20.0	1	ug/L	MGG
2-Nitrophenol	02	88-75-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		5.71	10.0	1	ug/L	MGG
3,3'-Dichlorobenzidine	02	91-94-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
3,3'-Dimethylbenzidine	02	119-93-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
3-Methylcholanthrene	02	56-49-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
3-Nitroaniline	02	99-09-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	20.0	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	02	534-52-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	50.0	1	ug/L	MGG
4-Aminobiphenyl	02	92-67-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
4-Bromophenyl phenyl ether	02	101-55-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
4-Chloroaniline	02	106-47-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
4-Chlorophenyl phenyl ether	02	7005-72-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
4-Nitroaniline	02	100-01-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	20.0	1	ug/L	MGG
4-Nitrophenol	02	100-02-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	50.0	1	ug/L	MGG
5-Nitro-o-toluidine	02	99-55-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	02	57-97-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
Acenaphthene	02	83-32-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Acenaphthylene	02	208-96-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Acetophenone	02	98-86-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	20.0	1	ug/L	MGG
Anthracene	02	120-12-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	10.0	1	ug/L	MGG
Benzo (a) anthracene	02	56-55-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	9.52	1	ug/L	MGG
Benzo (a) pyrene	02	50-32-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	9.52	1	ug/L	MGG
Benzo (b) fluoranthene	02	205-99-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Benzo (g,h,i) perylene	02	191-24-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	10.0	1	ug/L	MGG
Benzo (k) fluoranthene	02	207-08-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		5.71	10.0	1	ug/L	MGG
Benzyl alcohol	02	100-51-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	20.0	1	ug/L	MGG
bis (2-Chloroethoxy) methane	02	111-91-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
bis (2-Chloroethyl) ether	02	111-44-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	02	108-60-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	5.00	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	02	85-68-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		6.67	10.0	1	ug/L	MGG
Chlorobenzilate	02	510-15-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Chrysene	02	218-01-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Diallate	02	2303-16-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Dibenz (a,h) anthracene	02	53-70-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	10.0	1	ug/L	MGG
Dibenzofuran	02	132-64-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	5.00	1	ug/L	MGG
Diethyl phthalate	02	84-66-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
Dimethoate	02	60-51-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Dimethyl phthalate	02	131-11-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
Di-n-butyl phthalate	02	84-74-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Di-n-octyl phthalate	02	117-84-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	10.0	1	ug/L	MGG
Diphenylamine	02	122-39-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
Disulfoton	02	298-04-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Ethyl methanesulfonate	02	62-50-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	20.0	1	ug/L	MGG
Ethyl parathion	02	56-38-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Famphur	02	52-85-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
Fluoranthene	02	206-44-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	10.0	1	ug/L	MGG
Fluorene	02	86-73-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Hexachlorobenzene	02	118-74-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	0.95	1	ug/L	MGG
Hexachlorobutadiene	02	87-68-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.29	10.0	1	ug/L	MGG
Hexachlorocyclopentadiene	02	77-47-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.81	10.0	1	ug/L	MGG
Hexachloroethane	02	67-72-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
Hexachloropropene	02	1888-71-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
Isodrin	02	465-73-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
Isophorone	02	78-59-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		4.76	10.0	1	ug/L	MGG
Isosafrole	02	120-58-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
Kepon	02	143-50-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	9.52	1	ug/L	MGG
m+p-Cresols	02	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
Methapyrilene	02	91-80-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
Methyl methanesulfonate	02	66-27-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
Methyl parathion	02	298-00-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
<b>Naphthalene</b>	02	91-20-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	0.13		0.10	0.10	1	ug/L	MGG
Nitrobenzene	02	98-95-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
n-Nitrosodiethylamine	02	55-18-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	2.50	1	ug/L	MGG
n-Nitrosodimethylamine	02	62-75-9	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
n-Nitrosodi-n-butylamine	02	924-16-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
n-Nitrosodi-n-propylamine	02	621-64-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		3.33	10.0	1	ug/L	MGG
n-Nitrosodiphenylamine	02	86-30-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
n-Nitrosomethylethylamine	02	10595-95-6	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
n-Nitrosopiperidine	02	100-75-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
n-Nitrosopyrrolidine	02	930-55-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	02	126-68-1	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	02	297-97-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
o+m+p-Cresols	02	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.86	10.0	1	ug/L	MGG
o-Cresol	02	95-48-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	10.0	1	ug/L	MGG
o-Toluidine	02	95-53-4	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	02	60-11-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	2.50	1	ug/L	MGG
p-Chloro-m-cresol	02	59-50-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	10.0	1	ug/L	MGG
Pentachlorobenzene	02	608-93-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	02	82-68-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	9.52	1	ug/L	MGG
Phenacetin	02	62-44-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		0.95	10.0	1	ug/L	MGG
Phenanthrene	02	85-01-8	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		7.62	10.0	1	ug/L	MGG
Phenol	02	108-95-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		2.38	10.0	1	ug/L	MGG
Phorate	02	298-02-2	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
p-Phenylenediamine	02	106-50-3	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD	C	1.90	10.0	1	ug/L	MGG
Pronamide	02	23950-58-5	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	10.0	1	ug/L	MGG
Pyrene	02	129-00-0	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		6.67	10.0	1	ug/L	MGG
Safrole	02	94-59-7	SW8270E	04/05/2022 10:46	04/05/2022 18:23	BLOD		1.90	2.50	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	02	74.1 %	10-86	04/05/2022 10:46	04/05/2022 18:23							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	02	45.3 %	9-87	04/05/2022 10:46	04/05/2022 18:23							
<i>Surr: 2-Fluorophenol (Surr)</i>	02	31.3 %	10-52	04/05/2022 10:46	04/05/2022 18:23							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	02	51.3 %	10-98.5	04/05/2022 10:46	04/05/2022 18:23							
<i>Surr: Phenol-d5 (Surr)</i>	02	24.4 %	5-33	04/05/2022 10:46	04/05/2022 18:23							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	02	88.7 %	27-133	04/05/2022 10:46	04/05/2022 18:23							



### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	02	12674-11-2	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1221	02	11104-28-2	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1232	02	11141-16-5	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1242	02	53469-21-9	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1248	02	12672-29-6	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1254	02	11097-69-1	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1260	02	11096-82-5	SW8082A	04/05/2022 11:45	04/05/2022 16:27	BLOD		0.150	0.200	1	ug/L	LBH2
Surr: DCB	02	87.7 %	30-105	04/05/2022 11:45	04/05/2022 16:27							
Surr: TCMX	02	98.8 %	30-105	04/05/2022 11:45	04/05/2022 16:27							
4,4'-DDD	02	72-54-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDE	02	72-55-9	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDT	02	50-29-3	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Aldrin	02	309-00-2	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-BHC	02	319-84-6	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-Chlordane	02	5103-71-9	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
beta-BHC	02	319-85-7	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.020	0.050	1	ug/L	LBH2
Chlordane	02	57-74-9	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.200	0.200	1	ug/L	LBH2
delta-BHC	02	319-86-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Dieldrin	02	60-57-1	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan I	02	959-98-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan II	02	33213-65-9	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan sulfate	02	1031-07-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin	02	72-20-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin aldehyde	02	7421-93-4	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2

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Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	02	53494-70-5	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-BHC (Lindane)	02	58-89-9	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	02	5103-74-2	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor	02	76-44-8	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor epoxide	02	1024-57-3	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Methoxychlor	02	72-43-5	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.005	0.050	1	ug/L	LBH2
Toxaphene	02	8001-35-2	SW8081B	04/05/2022 11:45	04/05/2022 16:24	BLOD		0.200	1.00	1	ug/L	LBH2
Surr: TCMX	02	91.3 %	18-112	04/05/2022 11:45	04/05/2022 16:24							
Surr: DCB	02	50.2 %	27-131	04/05/2022 11:45	04/05/2022 16:24							

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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
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	02	93-76-5	SW8151A	04/05/2022 13:00	04/06/2022 14:23	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	02	93-72-1	SW8151A	04/05/2022 13:00	04/06/2022 14:23	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	02	94-75-7	SW8151A	04/05/2022 13:00	04/06/2022 14:23	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	02	88-85-7	SW8151A	04/05/2022 13:00	04/06/2022 14:23	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	02	87-86-5	SW8151A	04/05/2022 13:00	04/06/2022 14:23	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	02	90.1 %	48.5-134	04/05/2022 13:00	04/06/2022 14:23							

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: **MW-2B**

Laboratory Sample ID: **22C1547-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 17:22	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	02	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 17:22	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 17:22	BLOD		0.005	0.010	1	ug/L	LBH2

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22C1547-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Cyanide	02	57-12-5	SW9012B	04/01/2022 16:00	04/01/2022 16:00	BLOD		0.01	0.01	1	mg/L	HMG
Sulfide	02	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	03	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		0.0600	1.00	1	ug/L	RCV
Arsenic	03	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		0.50	1.0	1	ug/L	RCV
<b>Barium</b>	03	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 13:38	158		1.00	5.00	1	ug/L	RCV
<b>Beryllium</b>	03	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:38	0.594	J	0.200	1.00	1	ug/L	RCV
<b>Cadmium</b>	03	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:38	0.154	J	0.100	1.00	1	ug/L	RCV
<b>Cobalt</b>	03	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:38	14.0		0.200	1.00	1	ug/L	RCV
<b>Chromium</b>	03	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:38	0.471	J	0.400	1.00	1	ug/L	RCV
<b>Copper</b>	03	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:38	4.19		0.300	1.00	1	ug/L	RCV
Mercury	03	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:09	BLOD		0.00020	0.00020	1	mg/L	ARP
<b>Nickel</b>	03	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:38	2.282		1.000	1.000	1	ug/L	RCV
Lead	03	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	03	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		1.0	1.0	1	ug/L	RCV
<b>Selenium</b>	03	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:38	1.14		0.850	1.00	1	ug/L	RCV
Tin	03	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	03	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	03	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:38	BLOD		2.50	5.00	1	ug/L	RCV
<b>Zinc</b>	03	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:38	16.1		2.50	5.00	1	ug/L	RCV



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Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	03	71-55-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	03	79-00-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	03	75-34-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	03	75-35-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	03	563-58-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	03	96-18-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	03	120-82-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	03	95-50-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	03	107-06-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	03	78-87-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	03	541-73-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	03	142-28-9	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.00	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	03	106-46-7	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	03	594-20-7	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	03	78-93-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	03	591-78-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	03	67-64-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	03	75-05-8	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	03	107-02-8	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	03	107-13-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	03	107-05-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	1.00	1	ug/L	KCS

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Benzene	03	71-43-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	03	74-97-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	03	75-27-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	03	75-25-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	03	74-83-9	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	03	75-15-0	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	03	56-23-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	03	108-90-7	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	03	75-00-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	03	67-66-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	03	74-87-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	03	126-99-8	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	03	156-59-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	03	10061-01-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	03	124-48-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	03	74-95-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	03	75-71-8	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	03	97-63-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD	C	0.70	5.00	1	ug/L	KCS
Ethylbenzene	03	100-41-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	03	74-88-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		6.00	10.0	1	ug/L	KCS
Isobutyl Alcohol	03	78-83-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD	C	25.0	40.0	1	ug/L	KCS
m+p-Xylenes	03	179601-23-1	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	03	126-98-7	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.00	1.50	1	ug/L	KCS

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	03	80-62-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD	C	0.70	2.00	1	ug/L	KCS
Methylene chloride	03	75-09-2	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		4.00	4.00	1	ug/L	KCS
o-Xylene	03	95-47-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	03	107-12-0	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	03	100-42-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	03	127-18-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	03	108-88-3	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	03	156-60-5	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	03	10061-02-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	03	79-01-6	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	03	75-69-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	03	108-05-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	03	75-01-4	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	03	1330-20-7	SW8260D	04/04/2022 12:00	04/04/2022 12:00	BLOD		1.00	3.00	1	ug/L	KCS
Surr: 1,2-Dichloroethane-d4 (Surr)	03	97.8 %	70-120	04/04/2022 12:00	04/04/2022 12:00							
Surr: 4-Bromofluorobenzene (Surr)	03	87.2 %	75-120	04/04/2022 12:00	04/04/2022 12:00							
Surr: Dibromofluoromethane (Surr)	03	99.2 %	70-130	04/04/2022 12:00	04/04/2022 12:00							
Surr: Toluene-d8 (Surr)	03	100 %	70-130	04/04/2022 12:00	04/04/2022 12:00							

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	03	95-94-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
1,3,5-Trinitrobenzene	03	99-35-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	5.00	1	ug/L	MGG
1,3-Dinitrobenzene	03	99-65-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
1,4-Naphthoquinone	03	130-15-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
1-Naphthylamine	03	134-32-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	03	58-90-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
2,4,5-Trichlorophenol	03	95-95-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
2,4,6-Trichlorophenol	03	88-06-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	10.0	1	ug/L	MGG
2,4-Dichlorophenol	03	120-83-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
2,4-Dimethylphenol	03	105-67-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	5.00	1	ug/L	MGG
2,4-Dinitrophenol	03	51-28-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	50.0	1	ug/L	MGG
2,4-Dinitrotoluene	03	121-14-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		6.00	10.0	1	ug/L	MGG
2,6-Dichlorophenol	03	87-65-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
2,6-Dinitrotoluene	03	606-20-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
2-Acetylaminofluorene	03	53-96-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
2-Chloronaphthalene	03	91-58-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.50	10.0	1	ug/L	MGG
2-Chlorophenol	03	95-57-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
2-Methylnaphthalene	03	91-57-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
2-Naphthylamine	03	91-59-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
2-Nitroaniline	03	88-74-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	20.0	1	ug/L	MGG
2-Nitrophenol	03	88-75-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		6.00	10.0	1	ug/L	MGG
3,3'-Dichlorobenzidine	03	91-94-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
3,3'-Dimethylbenzidine	03	119-93-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
3-Methylcholanthrene	03	56-49-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
3-Nitroaniline	03	99-09-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	20.0	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	03	534-52-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	50.0	1	ug/L	MGG
4-Aminobiphenyl	03	92-67-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
4-Bromophenyl phenyl ether	03	101-55-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
4-Chloroaniline	03	106-47-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
4-Chlorophenyl phenyl ether	03	7005-72-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
4-Nitroaniline	03	100-01-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	20.0	1	ug/L	MGG
4-Nitrophenol	03	100-02-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	50.0	1	ug/L	MGG
5-Nitro-o-toluidine	03	99-55-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	03	57-97-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
Acenaphthene	03	83-32-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Acenaphthylene	03	208-96-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Acetophenone	03	98-86-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	20.0	1	ug/L	MGG
Anthracene	03	120-12-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	10.0	1	ug/L	MGG
Benzo (a) anthracene	03	56-55-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
Benzo (a) pyrene	03	50-32-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
Benzo (b) fluoranthene	03	205-99-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Benzo (g,h,i) perylene	03	191-24-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	10.0	1	ug/L	MGG
Benzo (k) fluoranthene	03	207-08-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		6.00	10.0	1	ug/L	MGG
Benzyl alcohol	03	100-51-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	20.0	1	ug/L	MGG
bis (2-Chloroethoxy) methane	03	111-91-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
bis (2-Chloroethyl) ether	03	111-44-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	03	108-60-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	5.00	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	03	85-68-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		7.00	10.0	1	ug/L	MGG
Chlorobenzilate	03	510-15-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
Chrysene	03	218-01-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Diallate	03	2303-16-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
Dibenz (a,h) anthracene	03	53-70-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	10.0	1	ug/L	MGG
Dibenzofuran	03	132-64-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	5.00	1	ug/L	MGG
Diethyl phthalate	03	84-66-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
Dimethoate	03	60-51-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD	C	2.50	2.50	1	ug/L	MGG
Dimethyl phthalate	03	131-11-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
Di-n-butyl phthalate	03	84-74-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Di-n-octyl phthalate	03	117-84-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	10.0	1	ug/L	MGG
Diphenylamine	03	122-39-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
Disulfoton	03	298-04-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
Ethyl methanesulfonate	03	62-50-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	20.0	1	ug/L	MGG
Ethyl parathion	03	56-38-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
Famphur	03	52-85-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
Fluoranthene	03	206-44-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	10.0	1	ug/L	MGG
Fluorene	03	86-73-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.00	10.0	1	ug/L	MGG
Hexachlorobenzene	03	118-74-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD	C	1.00	1.00	1	ug/L	MGG
Hexachlorobutadiene	03	87-68-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		4.50	10.0	1	ug/L	MGG
Hexachlorocyclopentadiene	03	77-47-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD	C	4.00	10.0	1	ug/L	MGG
Hexachloroethane	03	67-72-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
Hexachloropropene	03	1888-71-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Isodrin	03	465-73-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Isophorone	03	78-59-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		5.00	10.0	1	ug/L	MGG
Isosafrole	03	120-58-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
Kepone	03	143-50-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
m+p-Cresols	03	1319-77-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Methapyrilene	03	91-80-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Methyl methanesulfonate	03	66-27-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Methyl parathion	03	298-00-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
Naphthalene	03	91-20-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD	C	0.10	0.10	1	ug/L	MGG
Nitrobenzene	03	98-95-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosodiethylamine	03	55-18-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	2.50	1	ug/L	MGG
n-Nitrosodimethylamine	03	62-75-9	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosodi-n-butylamine	03	924-16-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
n-Nitrosodi-n-propylamine	03	621-64-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.50	10.0	1	ug/L	MGG
n-Nitrosodiphenylamine	03	86-30-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosomethylethylamine	03	10595-95-6	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
n-Nitrosopiperidine	03	100-75-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
n-Nitrosopyrrolidine	03	930-55-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	03	126-68-1	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	03	297-97-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
o+m+p-Cresols	03	1319-77-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		3.00	10.0	1	ug/L	MGG
o-Cresol	03	95-48-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	10.0	1	ug/L	MGG
o-Toluidine	03	95-53-4	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	03	60-11-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	2.50	1	ug/L	MGG
p-Chloro-m-cresol	03	59-50-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	10.0	1	ug/L	MGG
Pentachlorobenzene	03	608-93-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	03	82-68-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Phenacetin	03	62-44-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		1.00	10.0	1	ug/L	MGG
Phenanthrene	03	85-01-8	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		8.00	10.0	1	ug/L	MGG
Phenol	03	108-95-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.50	10.0	1	ug/L	MGG
Phorate	03	298-02-2	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
p-Phenylenediamine	03	106-50-3	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD	C	2.00	10.0	1	ug/L	MGG
Pronamide	03	23950-58-5	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	10.0	1	ug/L	MGG
Pyrene	03	129-00-0	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		7.00	10.0	1	ug/L	MGG
Safrole	03	94-59-7	SW8270E	04/04/2022 10:15	04/04/2022 20:27	BLOD		2.00	2.50	1	ug/L	MGG
Surr: 2,4,6-Tribromophenol (Surr)	03	34.5 %	10-86	04/04/2022 10:15	04/04/2022 20:27							
Surr: 2-Fluorobiphenyl (Surr)	03	30.2 %	9-87	04/04/2022 10:15	04/04/2022 20:27							
Surr: 2-Fluorophenol (Surr)	03	19.0 %	10-52	04/04/2022 10:15	04/04/2022 20:27							
Surr: Nitrobenzene-d5 (Surr)	03	31.3 %	10-98.5	04/04/2022 10:15	04/04/2022 20:27							
Surr: Phenol-d5 (Surr)	03	12.9 %	5-33	04/04/2022 10:15	04/04/2022 20:27							
Surr: p-Terphenyl-d14 (Surr)	03	79.2 %	27-133	04/04/2022 10:15	04/04/2022 20:27							

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Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	03	12674-11-2	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1221	03	11104-28-2	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1232	03	11141-16-5	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1242	03	53469-21-9	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1248	03	12672-29-6	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1254	03	11097-69-1	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1260	03	11096-82-5	SW8082A	04/05/2022 11:45	04/05/2022 16:47	BLOD		0.150	0.200	1	ug/L	LBH2
Surr: DCB	03	73.2 %	30-105	04/05/2022 11:45	04/05/2022 16:47							
Surr: TCMX	03	44.5 %	30-105	04/05/2022 11:45	04/05/2022 16:47							
4,4'-DDD	03	72-54-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDE	03	72-55-9	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDT	03	50-29-3	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Aldrin	03	309-00-2	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-BHC	03	319-84-6	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-Chlordane	03	5103-71-9	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
beta-BHC	03	319-85-7	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.020	0.050	1	ug/L	LBH2
Chlordane	03	57-74-9	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.200	0.200	1	ug/L	LBH2
delta-BHC	03	319-86-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Dieldrin	03	60-57-1	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan I	03	959-98-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan II	03	33213-65-9	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan sulfate	03	1031-07-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin	03	72-20-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin aldehyde	03	7421-93-4	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2

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Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	03	53494-70-5	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-BHC (Lindane)	03	58-89-9	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	03	5103-74-2	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor	03	76-44-8	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor epoxide	03	1024-57-3	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Methoxychlor	03	72-43-5	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.005	0.050	1	ug/L	LBH2
Toxaphene	03	8001-35-2	SW8081B	04/05/2022 11:45	04/05/2022 16:43	BLOD		0.200	1.00	1	ug/L	LBH2
Surr: TCMX	03	46.2 %	18-112	04/05/2022 11:45	04/05/2022 16:43							
Surr: DCB	03	83.2 %	27-131	04/05/2022 11:45	04/05/2022 16:43							

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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
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	03	93-76-5	SW8151A	04/05/2022 13:00	04/06/2022 14:49	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	03	93-72-1	SW8151A	04/05/2022 13:00	04/06/2022 14:49	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	03	94-75-7	SW8151A	04/05/2022 13:00	04/06/2022 14:49	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	03	88-85-7	SW8151A	04/05/2022 13:00	04/06/2022 14:49	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	03	87-86-5	SW8151A	04/05/2022 13:00	04/06/2022 14:49	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	03	95.3 %	48.5-134	04/05/2022 13:00	04/06/2022 14:49							

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Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 17:43	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	03	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 17:43	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 17:43	BLOD		0.005	0.010	1	ug/L	LBH2



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Client Sample ID: MW-3A

Laboratory Sample ID: 22C1547-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Cyanide	03	57-12-5	SW9012B	04/01/2022 16:03	04/01/2022 16:03	0.01		0.01	0.01	1	mg/L	HMG
Sulfide	03	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	04	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		0.0600	1.00	1	ug/L	RCV
Arsenic	04	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		0.50	1.0	1	ug/L	RCV
<b>Barium</b>	04	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 13:40	42.6		1.00	5.00	1	ug/L	RCV
Beryllium	04	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		0.200	1.00	1	ug/L	RCV
Cadmium	04	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		0.100	1.00	1	ug/L	RCV
<b>Cobalt</b>	04	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:40	32.9		0.200	1.00	1	ug/L	RCV
<b>Chromium</b>	04	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:40	0.451	J	0.400	1.00	1	ug/L	RCV
<b>Copper</b>	04	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:40	0.749	J	0.300	1.00	1	ug/L	RCV
Mercury	04	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:16	BLOD		0.00020	0.00020	1	mg/L	ARP
<b>Nickel</b>	04	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:40	12.36		1.000	1.000	1	ug/L	RCV
Lead	04	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	04	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		1.0	1.0	1	ug/L	RCV
Selenium	04	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		0.850	1.00	1	ug/L	RCV
Tin	04	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	04	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	04	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:40	BLOD		2.50	5.00	1	ug/L	RCV
<b>Zinc</b>	04	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:40	9.34		2.50	5.00	1	ug/L	RCV

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Client Sample ID: **MW-4**

Laboratory Sample ID: **22C1547-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	04	71-55-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	04	79-00-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	1.00	1	ug/L	KCS
<b>1,1-Dichloroethane</b>	04	75-34-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	0.71	J	0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	04	75-35-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	04	563-58-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	04	96-18-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	04	120-82-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	04	95-50-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	04	107-06-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	04	78-87-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	04	541-73-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	04	142-28-9	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.00	1.00	1	ug/L	KCS
<b>1,4-Dichlorobenzene</b>	04	106-46-7	SW8260D	04/04/2022 12:24	04/04/2022 12:24	2.80		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	04	594-20-7	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	04	78-93-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	04	591-78-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	04	67-64-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	04	75-05-8	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	04	107-02-8	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	04	107-13-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	04	107-05-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	1.00	1	ug/L	KCS

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>Benzene</b>	04	71-43-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	0.67	J	0.40	1.00	1	ug/L	KCS
Bromochloromethane	04	74-97-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	04	75-27-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	04	75-25-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	04	74-83-9	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	04	75-15-0	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	04	56-23-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	1.00	1	ug/L	KCS
<b>Chlorobenzene</b>	04	108-90-7	SW8260D	04/04/2022 12:24	04/04/2022 12:24	3.53		0.40	1.00	1	ug/L	KCS
Chloroethane	04	75-00-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	04	67-66-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	04	74-87-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	04	126-99-8	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	5.00	1	ug/L	KCS
<b>cis-1,2-Dichloroethylene</b>	04	156-59-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	0.53	J	0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	04	10061-01-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	04	124-48-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	04	74-95-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	04	75-71-8	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	04	97-63-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD	C	0.70	5.00	1	ug/L	KCS
Ethylbenzene	04	100-41-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	04	74-88-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		6.00	10.0	1	ug/L	KCS
Isobutyl Alcohol	04	78-83-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD	C	25.0	40.0	1	ug/L	KCS
m+p-Xylenes	04	179601-23-1	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	04	126-98-7	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.00	1.50	1	ug/L	KCS

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	04	80-62-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD	C	0.70	2.00	1	ug/L	KCS
Methylene chloride	04	75-09-2	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		4.00	4.00	1	ug/L	KCS
o-Xylene	04	95-47-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	04	107-12-0	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	04	100-42-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	04	127-18-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	04	108-88-3	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	04	156-60-5	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	04	10061-02-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	04	79-01-6	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	04	75-69-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	04	108-05-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	04	75-01-4	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	04	1330-20-7	SW8260D	04/04/2022 12:24	04/04/2022 12:24	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	94.4 %	70-120	04/04/2022 12:24	04/04/2022 12:24							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	91.1 %	75-120	04/04/2022 12:24	04/04/2022 12:24							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	102 %	70-130	04/04/2022 12:24	04/04/2022 12:24							
<i>Surr: Toluene-d8 (Surr)</i>	04	98.3 %	70-130	04/04/2022 12:24	04/04/2022 12:24							

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Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	04	95-94-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
1,3,5-Trinitrobenzene	04	99-35-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	5.00	1	ug/L	MGG
1,3-Dinitrobenzene	04	99-65-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
1,4-Naphthoquinone	04	130-15-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
1-Naphthylamine	04	134-32-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	04	58-90-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
2,4,5-Trichlorophenol	04	95-95-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
2,4,6-Trichlorophenol	04	88-06-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	10.0	1	ug/L	MGG
2,4-Dichlorophenol	04	120-83-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
2,4-Dimethylphenol	04	105-67-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	5.00	1	ug/L	MGG
2,4-Dinitrophenol	04	51-28-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	50.0	1	ug/L	MGG
2,4-Dinitrotoluene	04	121-14-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		6.00	10.0	1	ug/L	MGG
2,6-Dichlorophenol	04	87-65-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
2,6-Dinitrotoluene	04	606-20-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
2-Acetylaminofluorene	04	53-96-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
2-Chloronaphthalene	04	91-58-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.50	10.0	1	ug/L	MGG
2-Chlorophenol	04	95-57-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
2-Methylnaphthalene	04	91-57-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
2-Naphthylamine	04	91-59-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
2-Nitroaniline	04	88-74-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	20.0	1	ug/L	MGG
2-Nitrophenol	04	88-75-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		6.00	10.0	1	ug/L	MGG
3,3'-Dichlorobenzidine	04	91-94-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
3,3'-Dimethylbenzidine	04	119-93-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
3-Methylcholanthrene	04	56-49-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG



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Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
3-Nitroaniline	04	99-09-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	20.0	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	04	534-52-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	50.0	1	ug/L	MGG
4-Aminobiphenyl	04	92-67-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
4-Bromophenyl phenyl ether	04	101-55-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
4-Chloroaniline	04	106-47-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
4-Chlorophenyl phenyl ether	04	7005-72-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
4-Nitroaniline	04	100-01-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	20.0	1	ug/L	MGG
4-Nitrophenol	04	100-02-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	50.0	1	ug/L	MGG
5-Nitro-o-toluidine	04	99-55-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	04	57-97-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
Acenaphthene	04	83-32-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Acenaphthylene	04	208-96-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Acetophenone	04	98-86-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	20.0	1	ug/L	MGG
Anthracene	04	120-12-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	10.0	1	ug/L	MGG
Benzo (a) anthracene	04	56-55-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
Benzo (a) pyrene	04	50-32-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
Benzo (b) fluoranthene	04	205-99-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Benzo (g,h,i) perylene	04	191-24-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	10.0	1	ug/L	MGG
Benzo (k) fluoranthene	04	207-08-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		6.00	10.0	1	ug/L	MGG
Benzyl alcohol	04	100-51-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	20.0	1	ug/L	MGG
bis (2-Chloroethoxy) methane	04	111-91-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
bis (2-Chloroethyl) ether	04	111-44-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	04	108-60-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	5.00	1	ug/L	MGG

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	04	85-68-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		7.00	10.0	1	ug/L	MGG
Chlorobenzilate	04	510-15-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Chrysene	04	218-01-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Diallate	04	2303-16-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Dibenz (a,h) anthracene	04	53-70-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	10.0	1	ug/L	MGG
Dibenzofuran	04	132-64-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	5.00	1	ug/L	MGG
Diethyl phthalate	04	84-66-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
Dimethoate	04	60-51-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Dimethyl phthalate	04	131-11-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
Di-n-butyl phthalate	04	84-74-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Di-n-octyl phthalate	04	117-84-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	10.0	1	ug/L	MGG
Diphenylamine	04	122-39-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
Disulfoton	04	298-04-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Ethyl methanesulfonate	04	62-50-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	20.0	1	ug/L	MGG
Ethyl parathion	04	56-38-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Famphur	04	52-85-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
Fluoranthene	04	206-44-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	10.0	1	ug/L	MGG
Fluorene	04	86-73-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.00	10.0	1	ug/L	MGG
Hexachlorobenzene	04	118-74-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	1.00	1	ug/L	MGG
Hexachlorobutadiene	04	87-68-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		4.50	10.0	1	ug/L	MGG
Hexachlorocyclopentadiene	04	77-47-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD	C	4.00	10.0	1	ug/L	MGG
Hexachloroethane	04	67-72-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
Hexachloropropene	04	1888-71-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Isodrin	04	465-73-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Isophorone	04	78-59-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		5.00	10.0	1	ug/L	MGG
Isosafrole	04	120-58-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
Kepone	04	143-50-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
m+p-Cresols	04	1319-77-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Methapyrilene	04	91-80-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Methyl methanesulfonate	04	66-27-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Methyl parathion	04	298-00-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
<b>Naphthalene</b>	04	91-20-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	0.15	B	0.10	0.10	1	ug/L	MGG
Nitrobenzene	04	98-95-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosodiethylamine	04	55-18-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	2.50	1	ug/L	MGG
n-Nitrosodimethylamine	04	62-75-9	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosodi-n-butylamine	04	924-16-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
n-Nitrosodi-n-propylamine	04	621-64-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.50	10.0	1	ug/L	MGG
n-Nitrosodiphenylamine	04	86-30-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
n-Nitrosomethylethylamine	04	10595-95-6	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
n-Nitrosopiperidine	04	100-75-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
n-Nitrosopyrrolidine	04	930-55-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	04	126-68-1	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	04	297-97-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
o+m+p-Cresols	04	1319-77-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		3.00	10.0	1	ug/L	MGG
o-Cresol	04	95-48-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	10.0	1	ug/L	MGG
o-Toluidine	04	95-53-4	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	04	60-11-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	2.50	1	ug/L	MGG
p-Chloro-m-cresol	04	59-50-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	10.0	1	ug/L	MGG
Pentachlorobenzene	04	608-93-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	04	82-68-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Phenacetin	04	62-44-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		1.00	10.0	1	ug/L	MGG
Phenanthrene	04	85-01-8	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		8.00	10.0	1	ug/L	MGG
Phenol	04	108-95-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.50	10.0	1	ug/L	MGG
Phorate	04	298-02-2	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
p-Phenylenediamine	04	106-50-3	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD	C	2.00	10.0	1	ug/L	MGG
Pronamide	04	23950-58-5	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	10.0	1	ug/L	MGG
Pyrene	04	129-00-0	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		7.00	10.0	1	ug/L	MGG
Safrole	04	94-59-7	SW8270E	04/04/2022 10:15	04/05/2022 01:02	BLOD		2.00	2.50	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	04	73.6 %	10-86	04/04/2022 10:15	04/05/2022 01:02							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	04	76.9 %	9-87	04/04/2022 10:15	04/05/2022 01:02							
<i>Surr: 2-Fluorophenol (Surr)</i>	04	45.1 %	10-52	04/04/2022 10:15	04/05/2022 01:02							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	04	76.6 %	10-98.5	04/04/2022 10:15	04/05/2022 01:02							
<i>Surr: Phenol-d5 (Surr)</i>	04	30.3 %	5-33	04/04/2022 10:15	04/05/2022 01:02							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	04	91.2 %	27-133	04/04/2022 10:15	04/05/2022 01:02							

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Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	04	12674-11-2	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1221	04	11104-28-2	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1232	04	11141-16-5	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1242	04	53469-21-9	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1248	04	12672-29-6	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1254	04	11097-69-1	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
PCB as Aroclor 1260	04	11096-82-5	SW8082A	04/04/2022 13:00	04/05/2022 12:34	BLOD		0.149	0.200	1	ug/L	LBH2
Surr: DCB	04	87.0 %	30-105	04/04/2022 13:00	04/05/2022 12:34							
Surr: TCMX	04	69.9 %	30-105	04/04/2022 13:00	04/05/2022 12:34							
4,4'-DDD	04	72-54-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDE	04	72-55-9	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDT	04	50-29-3	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Aldrin	04	309-00-2	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-BHC	04	319-84-6	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-Chlordane	04	5103-71-9	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
beta-BHC	04	319-85-7	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.020	0.050	1	ug/L	LBH2
Chlordane	04	57-74-9	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.198	0.200	1	ug/L	LBH2
delta-BHC	04	319-86-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Dieldrin	04	60-57-1	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan I	04	959-98-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan II	04	33213-65-9	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan sulfate	04	1031-07-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin	04	72-20-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin aldehyde	04	7421-93-4	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2

### Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	04	53494-70-5	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-BHC (Lindane)	04	58-89-9	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	04	5103-74-2	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor	04	76-44-8	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor epoxide	04	1024-57-3	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Methoxychlor	04	72-43-5	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.005	0.050	1	ug/L	LBH2
Toxaphene	04	8001-35-2	SW8081B	04/04/2022 13:00	04/04/2022 19:29	BLOD		0.198	1.00	1	ug/L	LBH2
Surr: TCMX	04	41.1 %	18-112	04/04/2022 13:00	04/04/2022 19:29							
Surr: DCB	04	92.4 %	27-131	04/04/2022 13:00	04/04/2022 19:29							



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Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	04	93-76-5	SW8151A	03/31/2022 13:30	04/06/2022 12:38	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	04	93-72-1	SW8151A	03/31/2022 13:30	04/06/2022 12:38	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	04	94-75-7	SW8151A	03/31/2022 13:30	04/06/2022 12:38	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	04	88-85-7	SW8151A	03/31/2022 13:30	04/06/2022 12:38	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	04	87-86-5	SW8151A	03/31/2022 13:30	04/06/2022 12:38	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	04	83.4 %	48.5-134	03/31/2022 13:30	04/06/2022 12:38							

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Client Sample ID: MW-4

Laboratory Sample ID: 22C1547-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 18:05	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	04	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 18:05	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 18:05	BLOD		0.005	0.010	1	ug/L	LBH2

### Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: **MW-4**

Laboratory Sample ID: **22C1547-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Cyanide	04	57-12-5	SW9012B	04/01/2022 16:05	04/01/2022 16:05	BLOD		0.01	0.01	1	mg/L	HMG
Sulfide	04	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
<b>Silver</b>	05	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:43	0.0728	J	0.0600	1.00	1	ug/L	RCV
Arsenic	05	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.50	1.0	1	ug/L	RCV
<b>Barium</b>	05	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 13:43	12.2		1.00	5.00	1	ug/L	RCV
Beryllium	05	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.200	1.00	1	ug/L	RCV
Cadmium	05	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.100	1.00	1	ug/L	RCV
Cobalt	05	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.200	1.00	1	ug/L	RCV
Chromium	05	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.400	1.00	1	ug/L	RCV
<b>Copper</b>	05	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:43	0.454	J	0.300	1.00	1	ug/L	RCV
Mercury	05	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:18	BLOD		0.00020	0.00020	1	mg/L	ARP
Nickel	05	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		1.000	1.000	1	ug/L	RCV
Lead	05	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	05	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		1.0	1.0	1	ug/L	RCV
Selenium	05	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		0.850	1.00	1	ug/L	RCV
Tin	05	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	05	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	05	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:43	BLOD		2.50	5.00	1	ug/L	RCV
<b>Zinc</b>	05	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:43	3.45	J	2.50	5.00	1	ug/L	RCV

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	0.40	1	ug/L	KCS
1,1,1-Trichloroethane	05	71-55-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	1.00	1	ug/L	KCS
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.30	0.40	1	ug/L	KCS
1,1,2-Trichloroethane	05	79-00-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	1.00	1	ug/L	KCS
1,1-Dichloroethane	05	75-34-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	1.00	1	ug/L	KCS
1,1-Dichloroethylene	05	75-35-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.70	1.00	1	ug/L	KCS
1,1-Dichloropropene	05	563-58-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	1.00	1	ug/L	KCS
1,2,3-Trichloropropane	05	96-18-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
1,2,4-Trichlorobenzene	05	120-82-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	1.00	1	ug/L	KCS
1,2-Dichlorobenzene	05	95-50-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
1,2-Dichloroethane	05	107-06-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.70	1.00	1	ug/L	KCS
1,2-Dichloropropane	05	78-87-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
1,3-Dichlorobenzene	05	541-73-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.30	1.00	1	ug/L	KCS
1,3-Dichloropropane	05	142-28-9	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.00	1.00	1	ug/L	KCS
1,4-Dichlorobenzene	05	106-46-7	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
2,2-Dichloropropane	05	594-20-7	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	2.00	1	ug/L	KCS
2-Butanone (MEK)	05	78-93-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		3.00	10.0	1	ug/L	KCS
2-Hexanone (MBK)	05	591-78-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		2.20	5.00	1	ug/L	KCS
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.50	5.00	1	ug/L	KCS
Acetone	05	67-64-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		7.00	10.0	1	ug/L	KCS
Acetonitrile	05	75-05-8	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		8.00	10.0	1	ug/L	KCS
Acrolein	05	107-02-8	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		6.00	10.0	1	ug/L	KCS
Acrylonitrile	05	107-13-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.70	5.00	1	ug/L	KCS
Allyl chloride	05	107-05-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	1.00	1	ug/L	KCS

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Benzene	05	71-43-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Bromochloromethane	05	74-97-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	1.00	1	ug/L	KCS
Bromodichloromethane	05	75-27-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	0.50	1	ug/L	KCS
Bromoform	05	75-25-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Bromomethane	05	74-83-9	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.80	1.00	1	ug/L	KCS
Carbon disulfide	05	75-15-0	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		5.00	10.0	1	ug/L	KCS
Carbon tetrachloride	05	56-23-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	1.00	1	ug/L	KCS
Chlorobenzene	05	108-90-7	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Chloroethane	05	75-00-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.70	1.00	1	ug/L	KCS
Chloroform	05	67-66-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	0.50	1	ug/L	KCS
Chloromethane	05	74-87-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.95	1.00	1	ug/L	KCS
Chloroprene	05	126-99-8	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	5.00	1	ug/L	KCS
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.30	1.00	1	ug/L	KCS
Dibromochloromethane	05	124-48-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.35	0.50	1	ug/L	KCS
Dibromomethane	05	74-95-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Dichlorodifluoromethane	05	75-71-8	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.95	1.00	1	ug/L	KCS
Ethyl methacrylate	05	97-63-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD	C	0.70	5.00	1	ug/L	KCS
Ethylbenzene	05	100-41-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Iodomethane	05	74-88-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		6.00	10.0	1	ug/L	KCS
Isobutyl Alcohol	05	78-83-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD	C	25.0	40.0	1	ug/L	KCS
m+p-Xylenes	05	179601-23-1	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	2.00	1	ug/L	KCS
Methacrylonitrile	05	126-98-7	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.00	1.50	1	ug/L	KCS



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	05	80-62-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD	C	0.70	2.00	1	ug/L	KCS
Methylene chloride	05	75-09-2	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		4.00	4.00	1	ug/L	KCS
o-Xylene	05	95-47-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Propionitrile	05	107-12-0	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		7.50	40.0	1	ug/L	KCS
Styrene	05	100-42-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Toluene	05	108-88-3	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	1.00	1	ug/L	KCS
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.60	1.00	1	ug/L	KCS
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.30	1.00	1	ug/L	KCS
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.00	4.00	1	ug/L	KCS
Trichloroethylene	05	79-01-6	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.40	1.00	1	ug/L	KCS
Trichlorofluoromethane	05	75-69-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.80	1.00	1	ug/L	KCS
Vinyl acetate	05	108-05-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		2.00	10.0	1	ug/L	KCS
Vinyl chloride	05	75-01-4	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		0.50	0.50	1	ug/L	KCS
Xylenes, Total	05	1330-20-7	SW8260D	04/04/2022 12:50	04/04/2022 12:50	BLOD		1.00	3.00	1	ug/L	KCS
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>05</i>	<i>98.4 %</i>	<i>70-120</i>	<i>04/04/2022 12:50</i>	<i>04/04/2022 12:50</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>05</i>	<i>85.2 %</i>	<i>75-120</i>	<i>04/04/2022 12:50</i>	<i>04/04/2022 12:50</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>05</i>	<i>101 %</i>	<i>70-130</i>	<i>04/04/2022 12:50</i>	<i>04/04/2022 12:50</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>05</i>	<i>96.8 %</i>	<i>70-130</i>	<i>04/04/2022 12:50</i>	<i>04/04/2022 12:50</i>							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	05	95-94-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
1,3,5-Trinitrobenzene	05	99-35-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	5.05	1	ug/L	MGG
1,3-Dinitrobenzene	05	99-65-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
1,4-Naphthoquinone	05	130-15-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
1-Naphthylamine	05	134-32-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	05	58-90-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
2,4,5-Trichlorophenol	05	95-95-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
2,4,6-Trichlorophenol	05	88-06-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	10.1	1	ug/L	MGG
2,4-Dichlorophenol	05	120-83-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
2,4-Dimethylphenol	05	105-67-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	5.05	1	ug/L	MGG
2,4-Dinitrophenol	05	51-28-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	50.5	1	ug/L	MGG
2,4-Dinitrotoluene	05	121-14-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		6.06	10.1	1	ug/L	MGG
2,6-Dichlorophenol	05	87-65-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
2,6-Dinitrotoluene	05	606-20-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
2-Acetylaminofluorene	05	53-96-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
2-Chloronaphthalene	05	91-58-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.55	10.1	1	ug/L	MGG
2-Chlorophenol	05	95-57-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
2-Methylnaphthalene	05	91-57-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
2-Naphthylamine	05	91-59-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
2-Nitroaniline	05	88-74-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	20.2	1	ug/L	MGG
2-Nitrophenol	05	88-75-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		6.06	10.1	1	ug/L	MGG
3,3'-Dichlorobenzidine	05	91-94-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
3,3'-Dimethylbenzidine	05	119-93-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
3-Methylcholanthrene	05	56-49-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
3-Nitroaniline	05	99-09-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	20.2	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	05	534-52-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	50.5	1	ug/L	MGG
4-Aminobiphenyl	05	92-67-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
4-Bromophenyl phenyl ether	05	101-55-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
4-Chloroaniline	05	106-47-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
4-Chlorophenyl phenyl ether	05	7005-72-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
4-Nitroaniline	05	100-01-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	20.2	1	ug/L	MGG
4-Nitrophenol	05	100-02-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	50.5	1	ug/L	MGG
5-Nitro-o-toluidine	05	99-55-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	05	57-97-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
Acenaphthene	05	83-32-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Acenaphthylene	05	208-96-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Acetophenone	05	98-86-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	20.2	1	ug/L	MGG
Anthracene	05	120-12-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	10.1	1	ug/L	MGG
Benzo (a) anthracene	05	56-55-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
Benzo (a) pyrene	05	50-32-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
Benzo (b) fluoranthene	05	205-99-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Benzo (g,h,i) perylene	05	191-24-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	10.1	1	ug/L	MGG
Benzo (k) fluoranthene	05	207-08-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		6.06	10.1	1	ug/L	MGG
Benzyl alcohol	05	100-51-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	20.2	1	ug/L	MGG
bis (2-Chloroethoxy) methane	05	111-91-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
bis (2-Chloroethyl) ether	05	111-44-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	05	108-60-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	5.05	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	05	85-68-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		7.07	10.1	1	ug/L	MGG
Chlorobenzilate	05	510-15-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Chrysene	05	218-01-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Diallate	05	2303-16-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Dibenz (a,h) anthracene	05	53-70-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	10.1	1	ug/L	MGG
Dibenzofuran	05	132-64-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	5.05	1	ug/L	MGG
Diethyl phthalate	05	84-66-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
Dimethoate	05	60-51-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Dimethyl phthalate	05	131-11-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
Di-n-butyl phthalate	05	84-74-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Di-n-octyl phthalate	05	117-84-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	10.1	1	ug/L	MGG
Diphenylamine	05	122-39-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
Disulfoton	05	298-04-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Ethyl methanesulfonate	05	62-50-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	20.2	1	ug/L	MGG
Ethyl parathion	05	56-38-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Famphur	05	52-85-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
Fluoranthene	05	206-44-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	10.1	1	ug/L	MGG
Fluorene	05	86-73-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Hexachlorobenzene	05	118-74-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	1.01	1	ug/L	MGG
Hexachlorobutadiene	05	87-68-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.55	10.1	1	ug/L	MGG
Hexachlorocyclopentadiene	05	77-47-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		4.04	10.1	1	ug/L	MGG
Hexachloroethane	05	67-72-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
Hexachloropropene	05	1888-71-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
Isodrin	05	465-73-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Isophorone	05	78-59-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		5.05	10.1	1	ug/L	MGG
Isosafrole	05	120-58-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
Kepon	05	143-50-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
m+p-Cresols	05	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Methapyrilene	05	91-80-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Methyl methanesulfonate	05	66-27-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Methyl parathion	05	298-00-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
<b>Naphthalene</b>	05	91-20-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	0.11		0.10	0.10	1	ug/L	MGG
Nitrobenzene	05	98-95-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
n-Nitrosodiethylamine	05	55-18-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	2.53	1	ug/L	MGG
n-Nitrosodimethylamine	05	62-75-9	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
n-Nitrosodi-n-butylamine	05	924-16-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
n-Nitrosodi-n-propylamine	05	621-64-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.54	10.1	1	ug/L	MGG
n-Nitrosodiphenylamine	05	86-30-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
n-Nitrosomethylethylamine	05	10595-95-6	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
n-Nitrosopiperidine	05	100-75-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
n-Nitrosopyrrolidine	05	930-55-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	05	126-68-1	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	05	297-97-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
o+m+p-Cresols	05	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		3.03	10.1	1	ug/L	MGG
o-Cresol	05	95-48-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	10.1	1	ug/L	MGG
o-Toluidine	05	95-53-4	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	05	60-11-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	2.53	1	ug/L	MGG
p-Chloro-m-cresol	05	59-50-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	10.1	1	ug/L	MGG
Pentachlorobenzene	05	608-93-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	05	82-68-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Phenacetin	05	62-44-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		1.01	10.1	1	ug/L	MGG
Phenanthrene	05	85-01-8	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		8.08	10.1	1	ug/L	MGG
Phenol	05	108-95-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.53	10.1	1	ug/L	MGG
Phorate	05	298-02-2	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
p-Phenylenediamine	05	106-50-3	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD	C	2.02	10.1	1	ug/L	MGG
Pronamide	05	23950-58-5	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	10.1	1	ug/L	MGG
Pyrene	05	129-00-0	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		7.07	10.1	1	ug/L	MGG
Safrole	05	94-59-7	SW8270E	04/05/2022 10:46	04/05/2022 18:57	BLOD		2.02	2.53	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	05	74.4 %	10-86	04/05/2022 10:46	04/05/2022 18:57							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	05	79.2 %	9-87	04/05/2022 10:46	04/05/2022 18:57							
<i>Surr: 2-Fluorophenol (Surr)</i>	05	52.5 %	10-52	04/05/2022 10:46	04/05/2022 18:57							S
<i>Surr: Nitrobenzene-d5 (Surr)</i>	05	84.2 %	10-98.5	04/05/2022 10:46	04/05/2022 18:57							
<i>Surr: Phenol-d5 (Surr)</i>	05	34.5 %	5-33	04/05/2022 10:46	04/05/2022 18:57							S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	05	102 %	27-133	04/05/2022 10:46	04/05/2022 18:57							



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Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	05	12674-11-2	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1221	05	11104-28-2	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1232	05	11141-16-5	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1242	05	53469-21-9	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1248	05	12672-29-6	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1254	05	11097-69-1	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1260	05	11096-82-5	SW8082A	04/05/2022 11:45	04/05/2022 17:06	BLOD		0.150	0.200	1	ug/L	LBH2
Surr: DCB	05	68.6 %	30-105	04/05/2022 11:45	04/05/2022 17:06							
Surr: TCMX	05	51.0 %	30-105	04/05/2022 11:45	04/05/2022 17:06							
4,4'-DDD	05	72-54-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDE	05	72-55-9	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDT	05	50-29-3	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Aldrin	05	309-00-2	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-BHC	05	319-84-6	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-Chlordane	05	5103-71-9	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
beta-BHC	05	319-85-7	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.020	0.050	1	ug/L	LBH2
Chlordane	05	57-74-9	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.200	0.200	1	ug/L	LBH2
delta-BHC	05	319-86-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Dieldrin	05	60-57-1	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan I	05	959-98-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan II	05	33213-65-9	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan sulfate	05	1031-07-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin	05	72-20-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin aldehyde	05	7421-93-4	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	05	53494-70-5	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-BHC (Lindane)	05	58-89-9	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	05	5103-74-2	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor	05	76-44-8	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor epoxide	05	1024-57-3	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Methoxychlor	05	72-43-5	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.005	0.050	1	ug/L	LBH2
Toxaphene	05	8001-35-2	SW8081B	04/05/2022 11:45	04/05/2022 17:02	BLOD		0.200	1.00	1	ug/L	LBH2
Surr: TCMX	05	74.0 %	18-112	04/05/2022 11:45	04/05/2022 17:02							
Surr: DCB	05	89.0 %	27-131	04/05/2022 11:45	04/05/2022 17:02							

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Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	05	93-76-5	SW8151A	03/31/2022 13:30	04/06/2022 13:03	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	05	93-72-1	SW8151A	03/31/2022 13:30	04/06/2022 13:03	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	05	94-75-7	SW8151A	03/31/2022 13:30	04/06/2022 13:03	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	05	88-85-7	SW8151A	03/31/2022 13:30	04/06/2022 13:03	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	05	87-86-5	SW8151A	03/31/2022 13:30	04/06/2022 13:03	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	05	90.5 %	48.5-134	03/31/2022 13:30	04/06/2022 13:03							

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Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 18:27	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	05	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 18:27	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 18:27	BLOD		0.005	0.010	1	ug/L	LBH2

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### Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Client Site I.D.: Laurel Valley Compliance Wells

Submitted To: Michele Clary

Client Sample ID: MW-20

Laboratory Sample ID: 22C1547-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Cyanide	05	57-12-5	SW9012B	04/01/2022 16:06	04/01/2022 16:06	BLOD		0.01	0.01	1	mg/L	HMG
Sulfide	05	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	06	7440-22-4	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.0600	1.00	1	ug/L	RCV
Arsenic	06	7440-38-2	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.50	1.0	1	ug/L	RCV
Barium	06	7440-39-3	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.00	5.00	1	ug/L	RCV
Beryllium	06	7440-41-7	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.200	1.00	1	ug/L	RCV
Cadmium	06	7440-43-9	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.100	1.00	1	ug/L	RCV
Cobalt	06	7440-48-4	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.200	1.00	1	ug/L	RCV
Chromium	06	7440-47-3	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.400	1.00	1	ug/L	RCV
Copper	06	7440-50-8	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.300	1.00	1	ug/L	RCV
Mercury	06	7439-97-6	SW7470A	04/04/2022 09:22	04/04/2022 14:20	BLOD		0.00020	0.00020	1	mg/L	ARP
Nickel	06	7440-02-0	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.000	1.000	1	ug/L	RCV
Lead	06	7439-92-1	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.0	1.0	1	ug/L	RCV
Antimony	06	7440-36-0	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.0	1.0	1	ug/L	RCV
Selenium	06	7782-49-2	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		0.850	1.00	1	ug/L	RCV
Tin	06	7440-31-5	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.00	1.00	1	ug/L	RCV
Thallium	06	7440-28-0	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		1.0	1.0	1	ug/L	RCV
Vanadium	06	7440-62-2	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		2.50	5.00	1	ug/L	RCV
Zinc	06	7440-66-6	SW6020B	04/01/2022 16:00	04/04/2022 13:46	BLOD		2.50	5.00	1	ug/L	RCV



## Certificate of Analysis

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 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	0.40	1	ug/L	BMR
1,1,1-Trichloroethane	06	71-55-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	1.00	1	ug/L	BMR
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.30	0.40	1	ug/L	BMR
1,1,2-Trichloroethane	06	79-00-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	1.00	1	ug/L	BMR
1,1-Dichloroethane	06	75-34-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	1.00	1	ug/L	BMR
1,1-Dichloroethylene	06	75-35-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.70	1.00	1	ug/L	BMR
1,1-Dichloropropene	06	563-58-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	1.00	1	ug/L	BMR
1,2,3-Trichloropropane	06	96-18-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
1,2,4-Trichlorobenzene	06	120-82-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	1.00	1	ug/L	BMR
1,2-Dichlorobenzene	06	95-50-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
1,2-Dichloroethane	06	107-06-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.70	1.00	1	ug/L	BMR
1,2-Dichloropropane	06	78-87-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
1,3-Dichlorobenzene	06	541-73-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.30	1.00	1	ug/L	BMR
1,3-Dichloropropane	06	142-28-9	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.00	1.00	1	ug/L	BMR
1,4-Dichlorobenzene	06	106-46-7	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
2,2-Dichloropropane	06	594-20-7	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	2.00	1	ug/L	BMR
2-Butanone (MEK)	06	78-93-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		3.00	10.0	1	ug/L	BMR
2-Hexanone (MBK)	06	591-78-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		2.20	5.00	1	ug/L	BMR
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.50	5.00	1	ug/L	BMR
Acetone	06	67-64-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		7.00	10.0	1	ug/L	BMR
Acetonitrile	06	75-05-8	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		8.00	10.0	1	ug/L	BMR
Acrolein	06	107-02-8	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		6.00	10.0	1	ug/L	BMR
Acrylonitrile	06	107-13-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.70	5.00	1	ug/L	BMR
Allyl chloride	06	107-05-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	1.00	1	ug/L	BMR

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Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Benzene	06	71-43-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Bromochloromethane	06	74-97-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	1.00	1	ug/L	BMR
Bromodichloromethane	06	75-27-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	0.50	1	ug/L	BMR
Bromoform	06	75-25-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Bromomethane	06	74-83-9	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.80	1.00	1	ug/L	BMR
Carbon disulfide	06	75-15-0	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		5.00	10.0	1	ug/L	BMR
Carbon tetrachloride	06	56-23-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	1.00	1	ug/L	BMR
Chlorobenzene	06	108-90-7	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Chloroethane	06	75-00-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.70	1.00	1	ug/L	BMR
Chloroform	06	67-66-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	0.50	1	ug/L	BMR
Chloromethane	06	74-87-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.95	1.00	1	ug/L	BMR
Chloroprene	06	126-99-8	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	5.00	1	ug/L	BMR
cis-1,2-Dichloroethylene	06	156-59-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
cis-1,3-Dichloropropene	06	10061-01-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.30	1.00	1	ug/L	BMR
Dibromochloromethane	06	124-48-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.35	0.50	1	ug/L	BMR
Dibromomethane	06	74-95-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Dichlorodifluoromethane	06	75-71-8	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.95	1.00	1	ug/L	BMR
Ethyl methacrylate	06	97-63-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.70	5.00	1	ug/L	BMR
Ethylbenzene	06	100-41-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Iodomethane	06	74-88-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		6.00	10.0	1	ug/L	BMR
Isobutyl Alcohol	06	78-83-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		25.0	40.0	1	ug/L	BMR
m+p-Xylenes	06	179601-23-1	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	2.00	1	ug/L	BMR
Methacrylonitrile	06	126-98-7	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.00	1.50	1	ug/L	BMR

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Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	06	80-62-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.70	2.00	1	ug/L	BMR
Methylene chloride	06	75-09-2	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		4.00	4.00	1	ug/L	BMR
o-Xylene	06	95-47-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Propionitrile	06	107-12-0	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		7.50	40.0	1	ug/L	BMR
Styrene	06	100-42-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Tetrachloroethylene (PCE)	06	127-18-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Toluene	06	108-88-3	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	1.00	1	ug/L	BMR
trans-1,2-Dichloroethylene	06	156-60-5	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.60	1.00	1	ug/L	BMR
trans-1,3-Dichloropropene	06	10061-02-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.30	1.00	1	ug/L	BMR
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.00	4.00	1	ug/L	BMR
Trichloroethylene	06	79-01-6	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.40	1.00	1	ug/L	BMR
Trichlorofluoromethane	06	75-69-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.80	1.00	1	ug/L	BMR
Vinyl acetate	06	108-05-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		2.00	10.0	1	ug/L	BMR
Vinyl chloride	06	75-01-4	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		0.50	0.50	1	ug/L	BMR
Xylenes, Total	06	1330-20-7	SW8260D	04/01/2022 15:11	04/01/2022 15:11	BLOD		1.00	3.00	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	06	101 %	70-120	04/01/2022 15:11	04/01/2022 15:11							
Surr: 4-Bromofluorobenzene (Surr)	06	85.2 %	75-120	04/01/2022 15:11	04/01/2022 15:11							
Surr: Dibromofluoromethane (Surr)	06	98.7 %	70-130	04/01/2022 15:11	04/01/2022 15:11							
Surr: Toluene-d8 (Surr)	06	96.9 %	70-130	04/01/2022 15:11	04/01/2022 15:11							

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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
<b>Semivolatile Organic Compounds by GCMS</b>												
1,2,4,5-Tetrachlorobenzene	06	95-94-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
1,3,5-Trinitrobenzene	06	99-35-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	5.15	1	ug/L	MGG
1,3-Dinitrobenzene	06	99-65-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
1,4-Naphthoquinone	06	130-15-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
1-Naphthylamine	06	134-32-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
2,3,4,6-Tetrachlorophenol	06	58-90-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
2,4,5-Trichlorophenol	06	95-95-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
2,4,6-Trichlorophenol	06	88-06-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	10.3	1	ug/L	MGG
2,4-Dichlorophenol	06	120-83-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
2,4-Dimethylphenol	06	105-67-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	5.15	1	ug/L	MGG
2,4-Dinitrophenol	06	51-28-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	51.5	1	ug/L	MGG
2,4-Dinitrotoluene	06	121-14-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		6.19	10.3	1	ug/L	MGG
2,6-Dichlorophenol	06	87-65-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
2,6-Dinitrotoluene	06	606-20-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
2-Acetylaminofluorene	06	53-96-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
2-Chloronaphthalene	06	91-58-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.64	10.3	1	ug/L	MGG
2-Chlorophenol	06	95-57-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
2-Methylnaphthalene	06	91-57-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
2-Naphthylamine	06	91-59-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
2-Nitroaniline	06	88-74-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	20.6	1	ug/L	MGG
2-Nitrophenol	06	88-75-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		6.19	10.3	1	ug/L	MGG
3,3'-Dichlorobenzidine	06	91-94-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
3,3'-Dimethylbenzidine	06	119-93-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
3-Methylcholanthrene	06	56-49-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG

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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
<b>Semivolatile Organic Compounds by GCMS</b>												
3-Nitroaniline	06	99-09-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	20.6	1	ug/L	MGG
4,6-Dinitro-2-methylphenol	06	534-52-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	51.5	1	ug/L	MGG
4-Aminobiphenyl	06	92-67-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
4-Bromophenyl phenyl ether	06	101-55-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
4-Chloroaniline	06	106-47-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
4-Chlorophenyl phenyl ether	06	7005-72-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
4-Nitroaniline	06	100-01-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	20.6	1	ug/L	MGG
4-Nitrophenol	06	100-02-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	51.5	1	ug/L	MGG
5-Nitro-o-toluidine	06	99-55-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
7,12-Dimethylbenz (a) anthracene	06	57-97-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
Acenaphthene	06	83-32-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Acenaphthylene	06	208-96-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Acetophenone	06	98-86-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	20.6	1	ug/L	MGG
Anthracene	06	120-12-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	10.3	1	ug/L	MGG
Benzo (a) anthracene	06	56-55-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
Benzo (a) pyrene	06	50-32-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
Benzo (b) fluoranthene	06	205-99-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Benzo (g,h,i) perylene	06	191-24-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	10.3	1	ug/L	MGG
Benzo (k) fluoranthene	06	207-08-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		6.19	10.3	1	ug/L	MGG
Benzyl alcohol	06	100-51-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	20.6	1	ug/L	MGG
bis (2-Chloroethoxy) methane	06	111-91-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
bis (2-Chloroethyl) ether	06	111-44-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
2,2'-Oxybis (1-chloropropane)	06	108-60-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	5.15	1	ug/L	MGG

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
Butyl benzyl phthalate	06	85-68-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		7.22	10.3	1	ug/L	MGG
Chlorobenzilate	06	510-15-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Chrysene	06	218-01-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Diallate	06	2303-16-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Dibenz (a,h) anthracene	06	53-70-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	10.3	1	ug/L	MGG
Dibenzofuran	06	132-64-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	5.15	1	ug/L	MGG
Diethyl phthalate	06	84-66-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
Dimethoate	06	60-51-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Dimethyl phthalate	06	131-11-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
Di-n-butyl phthalate	06	84-74-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Di-n-octyl phthalate	06	117-84-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	10.3	1	ug/L	MGG
Diphenylamine	06	122-39-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
Disulfoton	06	298-04-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Ethyl methanesulfonate	06	62-50-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	20.6	1	ug/L	MGG
Ethyl parathion	06	56-38-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Famphur	06	52-85-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
Fluoranthene	06	206-44-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	10.3	1	ug/L	MGG
Fluorene	06	86-73-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Hexachlorobenzene	06	118-74-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	1.03	1	ug/L	MGG
Hexachlorobutadiene	06	87-68-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.64	10.3	1	ug/L	MGG
Hexachlorocyclopentadiene	06	77-47-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		4.12	10.3	1	ug/L	MGG
Hexachloroethane	06	67-72-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
Hexachloropropene	06	1888-71-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	06	193-39-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG



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Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
Isodrin	06	465-73-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Isophorone	06	78-59-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		5.15	10.3	1	ug/L	MGG
Isosafrole	06	120-58-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
Kepono	06	143-50-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
m+p-Cresols	06	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Methapyrilene	06	91-80-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Methyl methanesulfonate	06	66-27-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Methyl parathion	06	298-00-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
<b>Naphthalene</b>	06	91-20-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	0.12		0.10	0.10	1	ug/L	MGG
Nitrobenzene	06	98-95-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
n-Nitrosodiethylamine	06	55-18-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	2.58	1	ug/L	MGG
n-Nitrosodimethylamine	06	62-75-9	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
n-Nitrosodi-n-butylamine	06	924-16-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
n-Nitrosodi-n-propylamine	06	621-64-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.61	10.3	1	ug/L	MGG
n-Nitrosodiphenylamine	06	86-30-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
n-Nitrosomethylethylamine	06	10595-95-6	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
n-Nitrosopiperidine	06	100-75-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
n-Nitrosopyrrolidine	06	930-55-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
o,o,o-Triethyl phosphorothioate	06	126-68-1	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
o,o-Diethyl o-2-pyrazinyl phosphorothioate	06	297-97-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
o+m+p-Cresols	06	1319-77-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		3.09	10.3	1	ug/L	MGG
o-Cresol	06	95-48-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	10.3	1	ug/L	MGG
o-Toluidine	06	95-53-4	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG

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Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatle Organic Compounds by GCMS</b>												
p-(Dimethylamino) azobenzene	06	60-11-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	2.58	1	ug/L	MGG
p-Chloro-m-cresol	06	59-50-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	10.3	1	ug/L	MGG
Pentachlorobenzene	06	608-93-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
Pentachloronitrobenzene (quintozene)	06	82-68-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Phenacetin	06	62-44-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		1.03	10.3	1	ug/L	MGG
Phenanthrene	06	85-01-8	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		8.25	10.3	1	ug/L	MGG
Phenol	06	108-95-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.58	10.3	1	ug/L	MGG
Phorate	06	298-02-2	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
p-Phenylenediamine	06	106-50-3	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD	C	2.06	10.3	1	ug/L	MGG
Pronamide	06	23950-58-5	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	10.3	1	ug/L	MGG
Pyrene	06	129-00-0	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		7.22	10.3	1	ug/L	MGG
Safrole	06	94-59-7	SW8270E	04/05/2022 10:46	04/05/2022 19:30	BLOD		2.06	2.58	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	06	81.0 %	10-86	04/05/2022 10:46	04/05/2022 19:30							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	06	91.3 %	9-87	04/05/2022 10:46	04/05/2022 19:30							S
<i>Surr: 2-Fluorophenol (Surr)</i>	06	55.9 %	10-52	04/05/2022 10:46	04/05/2022 19:30							S
<i>Surr: Nitrobenzene-d5 (Surr)</i>	06	99.8 %	10-98.5	04/05/2022 10:46	04/05/2022 19:30							S
<i>Surr: Phenol-d5 (Surr)</i>	06	40.5 %	5-33	04/05/2022 10:46	04/05/2022 19:30							S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	06	114 %	27-133	04/05/2022 10:46	04/05/2022 19:30							

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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
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
PCB as Aroclor 1016	06	12674-11-2	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1221	06	11104-28-2	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1232	06	11141-16-5	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1242	06	53469-21-9	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1248	06	12672-29-6	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1254	06	11097-69-1	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
PCB as Aroclor 1260	06	11096-82-5	SW8082A	04/05/2022 11:45	04/05/2022 17:26	BLOD		0.150	0.200	1	ug/L	LBH2
Surr: DCB	06	70.9 %	30-105	04/05/2022 11:45	04/05/2022 17:26							
Surr: TCMX	06	59.2 %	30-105	04/05/2022 11:45	04/05/2022 17:26							
4,4'-DDD	06	72-54-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDE	06	72-55-9	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
4,4'-DDT	06	50-29-3	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Aldrin	06	309-00-2	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-BHC	06	319-84-6	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
alpha-Chlordane	06	5103-71-9	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
beta-BHC	06	319-85-7	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.020	0.050	1	ug/L	LBH2
Chlordane	06	57-74-9	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.200	0.200	1	ug/L	LBH2
delta-BHC	06	319-86-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Dieldrin	06	60-57-1	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan I	06	959-98-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan II	06	33213-65-9	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Endosulfan sulfate	06	1031-07-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin	06	72-20-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Endrin aldehyde	06	7421-93-4	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2

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<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endrin ketone	06	53494-70-5	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-BHC (Lindane)	06	58-89-9	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	06	5103-74-2	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor	06	76-44-8	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Heptachlor epoxide	06	1024-57-3	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Methoxychlor	06	72-43-5	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.005	0.050	1	ug/L	LBH2
Toxaphene	06	8001-35-2	SW8081B	04/05/2022 11:45	04/05/2022 17:20	BLOD		0.200	1.00	1	ug/L	LBH2
Surr: TCMX	06	56.8 %	18-112	04/05/2022 11:45	04/05/2022 17:20							
Surr: DCB	06	58.9 %	27-131	04/05/2022 11:45	04/05/2022 17:20							

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<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-T	06	93-76-5	SW8151A	03/31/2022 13:30	04/06/2022 13:29	BLOD		0.200	0.500	1	ug/L	LBH2
2,4,5-TP (Silvex)	06	93-72-1	SW8151A	03/31/2022 13:30	04/06/2022 13:29	BLOD		0.107	0.500	1	ug/L	LBH2
2,4-D	06	94-75-7	SW8151A	03/31/2022 13:30	04/06/2022 13:29	BLOD		0.200	0.500	1	ug/L	LBH2
Dinoseb	06	88-85-7	SW8151A	03/31/2022 13:30	04/06/2022 13:29	BLOD		0.200	0.500	1	ug/L	LBH2
Pentachlorophenol	06	87-86-5	SW8151A	03/31/2022 13:30	04/06/2022 13:29	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	06	91.4 %	48.5-134	03/31/2022 13:30	04/06/2022 13:29							

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<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 18:48	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	06	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 18:48	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 18:48	BLOD		0.005	0.010	1	ug/L	LBH2



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Client Sample ID: Field Blank

Laboratory Sample ID: 22C1547-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Cyanide	06	57-12-5	SW9012B	04/01/2022 16:07	04/01/2022 16:07	BLOD		0.01	0.01	1	mg/L	HMG
Sulfide	06	18496-25-8	SW9215	04/02/2022 16:00	04/02/2022 16:00	BLOD		0.80	1.00	1	mg/L	MJRL

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	0.40	1	ug/L	BMR
1,1,1-Trichloroethane	07	71-55-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	1.00	1	ug/L	BMR
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.30	0.40	1	ug/L	BMR
1,1,2-Trichloroethane	07	79-00-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	1.00	1	ug/L	BMR
1,1-Dichloroethane	07	75-34-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	1.00	1	ug/L	BMR
1,1-Dichloroethylene	07	75-35-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.70	1.00	1	ug/L	BMR
1,1-Dichloropropene	07	563-58-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	1.00	1	ug/L	BMR
1,2,3-Trichloropropane	07	96-18-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
1,2,4-Trichlorobenzene	07	120-82-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	1.00	1	ug/L	BMR
1,2-Dichlorobenzene	07	95-50-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
1,2-Dichloroethane	07	107-06-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.70	1.00	1	ug/L	BMR
1,2-Dichloropropane	07	78-87-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
1,3-Dichlorobenzene	07	541-73-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.30	1.00	1	ug/L	BMR
1,3-Dichloropropane	07	142-28-9	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.00	1.00	1	ug/L	BMR
1,4-Dichlorobenzene	07	106-46-7	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
2,2-Dichloropropane	07	594-20-7	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	2.00	1	ug/L	BMR
2-Butanone (MEK)	07	78-93-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		3.00	10.0	1	ug/L	BMR
2-Hexanone (MBK)	07	591-78-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		2.20	5.00	1	ug/L	BMR
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.50	5.00	1	ug/L	BMR
Acetone	07	67-64-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		7.00	10.0	1	ug/L	BMR
Acetonitrile	07	75-05-8	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		8.00	10.0	1	ug/L	BMR
Acrolein	07	107-02-8	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		6.00	10.0	1	ug/L	BMR
Acrylonitrile	07	107-13-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.70	5.00	1	ug/L	BMR
Allyl chloride	07	107-05-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	1.00	1	ug/L	BMR

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Benzene	07	71-43-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Bromochloromethane	07	74-97-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	1.00	1	ug/L	BMR
Bromodichloromethane	07	75-27-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	0.50	1	ug/L	BMR
Bromoform	07	75-25-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Bromomethane	07	74-83-9	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.80	1.00	1	ug/L	BMR
Carbon disulfide	07	75-15-0	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		5.00	10.0	1	ug/L	BMR
Carbon tetrachloride	07	56-23-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	1.00	1	ug/L	BMR
Chlorobenzene	07	108-90-7	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Chloroethane	07	75-00-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.70	1.00	1	ug/L	BMR
Chloroform	07	67-66-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	0.50	1	ug/L	BMR
Chloromethane	07	74-87-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.95	1.00	1	ug/L	BMR
Chloroprene	07	126-99-8	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	5.00	1	ug/L	BMR
cis-1,2-Dichloroethylene	07	156-59-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
cis-1,3-Dichloropropene	07	10061-01-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.30	1.00	1	ug/L	BMR
Dibromochloromethane	07	124-48-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.35	0.50	1	ug/L	BMR
Dibromomethane	07	74-95-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Dichlorodifluoromethane	07	75-71-8	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.95	1.00	1	ug/L	BMR
Ethyl methacrylate	07	97-63-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.70	5.00	1	ug/L	BMR
Ethylbenzene	07	100-41-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Iodomethane	07	74-88-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		6.00	10.0	1	ug/L	BMR
Isobutyl Alcohol	07	78-83-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		25.0	40.0	1	ug/L	BMR
m+p-Xylenes	07	179601-23-1	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	2.00	1	ug/L	BMR
Methacrylonitrile	07	126-98-7	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.00	1.50	1	ug/L	BMR

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	07	80-62-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.70	2.00	1	ug/L	BMR
Methylene chloride	07	75-09-2	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		4.00	4.00	1	ug/L	BMR
o-Xylene	07	95-47-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Propionitrile	07	107-12-0	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		7.50	40.0	1	ug/L	BMR
Styrene	07	100-42-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Tetrachloroethylene (PCE)	07	127-18-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Toluene	07	108-88-3	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	1.00	1	ug/L	BMR
trans-1,2-Dichloroethylene	07	156-60-5	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.60	1.00	1	ug/L	BMR
trans-1,3-Dichloropropene	07	10061-02-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.30	1.00	1	ug/L	BMR
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.00	4.00	1	ug/L	BMR
Trichloroethylene	07	79-01-6	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.40	1.00	1	ug/L	BMR
Trichlorofluoromethane	07	75-69-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.80	1.00	1	ug/L	BMR
Vinyl acetate	07	108-05-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		2.00	10.0	1	ug/L	BMR
Vinyl chloride	07	75-01-4	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		0.50	0.50	1	ug/L	BMR
Xylenes, Total	07	1330-20-7	SW8260D	04/01/2022 13:59	04/01/2022 13:59	BLOD		1.00	3.00	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	07	88.5 %	70-120	04/01/2022 13:59	04/01/2022 13:59							
Surr: 4-Bromofluorobenzene (Surr)	07	88.3 %	75-120	04/01/2022 13:59	04/01/2022 13:59							
Surr: Dibromofluoromethane (Surr)	07	93.5 %	70-130	04/01/2022 13:59	04/01/2022 13:59							
Surr: Toluene-d8 (Surr)	07	96.2 %	70-130	04/01/2022 13:59	04/01/2022 13:59							

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Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	04/05/2022 10:35	04/05/2022 19:10	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	07	96-18-4	SW8011	04/05/2022 10:35	04/05/2022 19:10	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	04/05/2022 10:35	04/05/2022 19:10	BLOD		0.005	0.010	1	ug/L	LBH2

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	08	630-20-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	0.40	1	ug/L	BMR
1,1,1-Trichloroethane	08	71-55-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	1.00	1	ug/L	BMR
1,1,2,2-Tetrachloroethane	08	79-34-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.30	0.40	1	ug/L	BMR
1,1,2-Trichloroethane	08	79-00-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	1.00	1	ug/L	BMR
1,1-Dichloroethane	08	75-34-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	1.00	1	ug/L	BMR
1,1-Dichloroethylene	08	75-35-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.70	1.00	1	ug/L	BMR
1,1-Dichloropropene	08	563-58-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	1.00	1	ug/L	BMR
1,2,3-Trichloropropane	08	96-18-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
1,2,4-Trichlorobenzene	08	120-82-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	1.00	1	ug/L	BMR
1,2-Dichlorobenzene	08	95-50-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
1,2-Dichloroethane	08	107-06-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.70	1.00	1	ug/L	BMR
1,2-Dichloropropane	08	78-87-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
1,3-Dichlorobenzene	08	541-73-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.30	1.00	1	ug/L	BMR
1,3-Dichloropropane	08	142-28-9	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.00	1.00	1	ug/L	BMR
1,4-Dichlorobenzene	08	106-46-7	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
2,2-Dichloropropane	08	594-20-7	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	2.00	1	ug/L	BMR
2-Butanone (MEK)	08	78-93-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		3.00	10.0	1	ug/L	BMR
2-Hexanone (MBK)	08	591-78-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		2.20	5.00	1	ug/L	BMR
4-Methyl-2-pentanone (MIBK)	08	108-10-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.50	5.00	1	ug/L	BMR
Acetone	08	67-64-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		7.00	10.0	1	ug/L	BMR
Acetonitrile	08	75-05-8	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		8.00	10.0	1	ug/L	BMR
Acrolein	08	107-02-8	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		6.00	10.0	1	ug/L	BMR
Acrylonitrile	08	107-13-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.70	5.00	1	ug/L	BMR
Allyl chloride	08	107-05-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	1.00	1	ug/L	BMR



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Benzene	08	71-43-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Bromochloromethane	08	74-97-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	1.00	1	ug/L	BMR
Bromodichloromethane	08	75-27-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	0.50	1	ug/L	BMR
Bromoform	08	75-25-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Bromomethane	08	74-83-9	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.80	1.00	1	ug/L	BMR
Carbon disulfide	08	75-15-0	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		5.00	10.0	1	ug/L	BMR
Carbon tetrachloride	08	56-23-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	1.00	1	ug/L	BMR
Chlorobenzene	08	108-90-7	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Chloroethane	08	75-00-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.70	1.00	1	ug/L	BMR
Chloroform	08	67-66-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	0.50	1	ug/L	BMR
Chloromethane	08	74-87-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.95	1.00	1	ug/L	BMR
Chloroprene	08	126-99-8	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	5.00	1	ug/L	BMR
cis-1,2-Dichloroethylene	08	156-59-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
cis-1,3-Dichloropropene	08	10061-01-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.30	1.00	1	ug/L	BMR
Dibromochloromethane	08	124-48-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.35	0.50	1	ug/L	BMR
Dibromomethane	08	74-95-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Dichlorodifluoromethane	08	75-71-8	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.95	1.00	1	ug/L	BMR
Ethyl methacrylate	08	97-63-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.70	5.00	1	ug/L	BMR
Ethylbenzene	08	100-41-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Iodomethane	08	74-88-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		6.00	10.0	1	ug/L	BMR
Isobutyl Alcohol	08	78-83-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		25.0	40.0	1	ug/L	BMR
m+p-Xylenes	08	179601-23-1	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	2.00	1	ug/L	BMR
Methacrylonitrile	08	126-98-7	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.00	1.50	1	ug/L	BMR

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22C1547-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Methyl methacrylate	08	80-62-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.70	2.00	1	ug/L	BMR
Methylene chloride	08	75-09-2	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		4.00	4.00	1	ug/L	BMR
o-Xylene	08	95-47-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Propionitrile	08	107-12-0	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		7.50	40.0	1	ug/L	BMR
Styrene	08	100-42-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Tetrachloroethylene (PCE)	08	127-18-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Toluene	08	108-88-3	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	1.00	1	ug/L	BMR
trans-1,2-Dichloroethylene	08	156-60-5	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.60	1.00	1	ug/L	BMR
trans-1,3-Dichloropropene	08	10061-02-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.30	1.00	1	ug/L	BMR
trans-1,4-Dichloro-2-butene	08	110-57-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.00	4.00	1	ug/L	BMR
Trichloroethylene	08	79-01-6	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.40	1.00	1	ug/L	BMR
Trichlorofluoromethane	08	75-69-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.80	1.00	1	ug/L	BMR
Vinyl acetate	08	108-05-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		2.00	10.0	1	ug/L	BMR
Vinyl chloride	08	75-01-4	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		0.50	0.50	1	ug/L	BMR
Xylenes, Total	08	1330-20-7	SW8260D	04/01/2022 14:23	04/01/2022 14:23	BLOD		1.00	3.00	1	ug/L	BMR
Surr: 1,2-Dichloroethane-d4 (Surr)	08	88.1 %	70-120	04/01/2022 14:23	04/01/2022 14:23							
Surr: 4-Bromofluorobenzene (Surr)	08	83.2 %	75-120	04/01/2022 14:23	04/01/2022 14:23							
Surr: Dibromofluoromethane (Surr)	08	91.8 %	70-130	04/01/2022 14:23	04/01/2022 14:23							
Surr: Toluene-d8 (Surr)	08	95.1 %	70-130	04/01/2022 14:23	04/01/2022 14:23							

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0019 - EPA200.8 R5.4

**Blank (BFD0019-BLK1)**

Prepared: 04/01/2022 Analyzed: 04/04/2022

Antimony	ND	1.0	ug/L							
Arsenic	ND	1.0	ug/L							
Barium	ND	5.00	ug/L							
Beryllium	ND	1.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	1.00	ug/L							
Cobalt	ND	1.00	ug/L							
Copper	ND	1.00	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	1.000	ug/L							
Selenium	ND	1.00	ug/L							
Silver	ND	1.00	ug/L							
Thallium	ND	1.0	ug/L							
Tin	ND	1.00	ug/L							
Vanadium	ND	5.00	ug/L							
Zinc	ND	5.00	ug/L							

**LCS (BFD0019-BS1)**

Prepared: 04/01/2022 Analyzed: 04/04/2022

Antimony	50	1.0	ug/L	50.0		99.4	80-120
Arsenic	51	1.0	ug/L	50.0		101	80-120
Barium	50.2	5.00	ug/L	50.0		100	80-120
Beryllium	49.8	1.00	ug/L	50.0		99.7	80-120
Cadmium	50.1	1.00	ug/L	50.0		100	80-120
Chromium	48.4	1.00	ug/L	50.0		96.9	80-120
Cobalt	48.7	1.00	ug/L	50.0		97.3	80-120

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0019 - EPA200.8 R5.4

**LCS (BFD0019-BS1)**

Prepared: 04/01/2022 Analyzed: 04/04/2022

Copper	49.8	1.00	ug/L	50.0		99.6	80-120			
Lead	50	1.0	ug/L	50.0		99.8	80-120			
Nickel	48.67	1.000	ug/L	50.0		97.3	80-120			
Selenium	56.0	1.00	ug/L	50.0		112	80-120			
Silver	9.45	1.00	ug/L	10.0		94.5	80-120			
Thallium	50	1.0	ug/L	50.0		99.4	80-120			
Tin	9.80	1.00	ug/L	10.0		98.0	80-120			
Vanadium	48.4	5.00	ug/L	50.0		96.8	80-120			
Zinc	52.5	5.00	ug/L	50.0		105	80-120			

**Matrix Spike (BFD0019-MS1)**

Source: 22C1525-09

Prepared: 04/01/2022 Analyzed: 04/04/2022

Antimony	49	1.0	ug/L	50.0	BLOD	98.0	75-125			
Arsenic	51	1.0	ug/L	50.0	BLOD	102	75-125			
Barium	227	5.00	ug/L	50.0	176	103	75-125			
Beryllium	45.7	1.00	ug/L	50.0	BLOD	91.4	75-125			
Cadmium	52.8	1.00	ug/L	50.0	3.57	98.5	75-125			
Chromium	49.8	1.00	ug/L	50.0	2.70	94.2	75-125			
Cobalt	60.9	1.00	ug/L	50.0	14.1	93.7	75-125			
Copper	50.6	1.00	ug/L	50.0	4.41	92.3	75-125			
Lead	49	1.0	ug/L	50.0	1.0	95.5	75-125			
Nickel	53.67	1.000	ug/L	50.0	7.892	91.6	75-125			
Selenium	53.9	1.00	ug/L	50.0	BLOD	108	75-125			
Silver	9.21	1.00	ug/L	10.0	BLOD	92.1	75-125			
Thallium	48	1.0	ug/L	50.0	BLOD	95.9	75-125			
Tin	10.0	1.00	ug/L	10.0	BLOD	100	75-125			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0019 - EPA200.8 R5.4</b>										
<b>Matrix Spike (BFD0019-MS1)</b>										
			<b>Source: 22C1525-09</b>		Prepared: 04/01/2022 Analyzed: 04/04/2022					
Vanadium	53.3	5.00	ug/L	50.0	5.44	95.7	75-125			
Zinc	59.3	5.00	ug/L	50.0	12.3	94.0	75-125			
<b>Matrix Spike (BFD0019-MS2)</b>										
			<b>Source: 22C1525-20</b>		Prepared: 04/01/2022 Analyzed: 04/04/2022					
Antimony	51	1.0	ug/L	50.0	BLOD	103	75-125			
Arsenic	51	1.0	ug/L	50.0	BLOD	102	75-125			
Barium	61.5	5.00	ug/L	50.0	12.0	99.1	75-125			
Beryllium	51.0	1.00	ug/L	50.0	BLOD	102	75-125			
Cadmium	50.5	1.00	ug/L	50.0	BLOD	101	75-125			
Chromium	48.0	1.00	ug/L	50.0	BLOD	96.0	75-125			
Cobalt	48.2	1.00	ug/L	50.0	BLOD	96.5	75-125			
Copper	48.7	1.00	ug/L	50.0	0.433	96.4	75-125			
Lead	51	1.0	ug/L	50.0	BLOD	102	75-125			
Nickel	48.08	1.000	ug/L	50.0	BLOD	96.2	75-125			
Selenium	54.7	1.00	ug/L	50.0	BLOD	109	75-125			
Silver	9.26	1.00	ug/L	10.0	BLOD	92.6	75-125			
Thallium	50	1.0	ug/L	50.0	BLOD	101	75-125			
Tin	9.74	1.00	ug/L	10.0	BLOD	97.4	75-125			
Vanadium	48.8	5.00	ug/L	50.0	BLOD	97.7	75-125			
Zinc	53.9	5.00	ug/L	50.0	BLOD	108	75-125			
<b>Matrix Spike Dup (BFD0019-MSD1)</b>										
			<b>Source: 22C1525-09</b>		Prepared: 04/01/2022 Analyzed: 04/04/2022					
Antimony	49	1.0	ug/L	50.0	BLOD	97.7	75-125	0.286	20	
Arsenic	51	1.0	ug/L	50.0	BLOD	101	75-125	0.955	20	
Barium	228	5.00	ug/L	50.0	176	104	75-125	0.322	20	
Beryllium	45.5	1.00	ug/L	50.0	BLOD	91.1	75-125	0.362	20	

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0019 - EPA200.8 R5.4

Matrix Spike Dup (BFD0019-MSD1)	Source: 22C1525-09			Prepared: 04/01/2022 Analyzed: 04/04/2022						
Cadmium	52.7	1.00	ug/L	50.0	3.57	98.2	75-125	0.241	20	
Chromium	50.0	1.00	ug/L	50.0	2.70	94.5	75-125	0.350	20	
Cobalt	59.8	1.00	ug/L	50.0	14.1	91.5	75-125	1.83	20	
Copper	50.3	1.00	ug/L	50.0	4.41	91.8	75-125	0.474	20	
Lead	49	1.0	ug/L	50.0	1.0	95.2	75-125	0.283	20	
Nickel	52.90	1.000	ug/L	50.0	7.892	90.0	75-125	1.45	20	
Selenium	54.2	1.00	ug/L	50.0	BLOD	108	75-125	0.508	20	
Silver	9.11	1.00	ug/L	10.0	BLOD	91.1	75-125	1.04	20	
Thallium	48	1.0	ug/L	50.0	BLOD	95.9	75-125	0.0593	20	
Tin	9.86	1.00	ug/L	10.0	BLOD	98.6	75-125	1.42	20	
Vanadium	53.3	5.00	ug/L	50.0	5.44	95.7	75-125	0.0322	20	
Zinc	58.8	5.00	ug/L	50.0	12.3	93.1	75-125	0.766	20	

Matrix Spike Dup (BFD0019-MSD2)	Source: 22C1525-20			Prepared: 04/01/2022 Analyzed: 04/04/2022						
Antimony	51	1.0	ug/L	50.0	BLOD	102	75-125	0.457	20	
Arsenic	51	1.0	ug/L	50.0	BLOD	103	75-125	1.15	20	
Barium	62.5	5.00	ug/L	50.0	12.0	101	75-125	1.60	20	
Beryllium	51.2	1.00	ug/L	50.0	BLOD	102	75-125	0.388	20	
Cadmium	49.5	1.00	ug/L	50.0	BLOD	99.1	75-125	1.93	20	
Chromium	48.6	1.00	ug/L	50.0	BLOD	97.3	75-125	1.39	20	
Cobalt	47.9	1.00	ug/L	50.0	BLOD	95.7	75-125	0.782	20	
Copper	49.0	1.00	ug/L	50.0	0.433	97.1	75-125	0.730	20	
Lead	51	1.0	ug/L	50.0	BLOD	102	75-125	0.756	20	
Nickel	47.98	1.000	ug/L	50.0	BLOD	96.0	75-125	0.211	20	
Selenium	54.9	1.00	ug/L	50.0	BLOD	110	75-125	0.432	20	



## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0019 - EPA200.8 R5.4

Matrix Spike Dup (BFD0019-MSD2)	Source: 22C1525-20		Prepared: 04/01/2022 Analyzed: 04/04/2022							
Silver	9.05	1.00	ug/L	10.0	BLOD	90.5	75-125	2.30	20	
Thallium	50	1.0	ug/L	50.0	BLOD	99.9	75-125	0.621	20	
Tin	9.64	1.00	ug/L	10.0	BLOD	96.4	75-125	0.959	20	
Vanadium	49.2	5.00	ug/L	50.0	BLOD	98.4	75-125	0.773	20	
Zinc	53.9	5.00	ug/L	50.0	BLOD	108	75-125	0.0152	20	

### Batch BFD0058 - SW7470A

Blank (BFD0058-BLK1)	Prepared & Analyzed: 04/04/2022										
Mercury	ND	0.00020	mg/L								

LCS (BFD0058-BS1)	Prepared & Analyzed: 04/04/2022										
Mercury	0.00252	0.00020	mg/L	0.00250		101	80-120				

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0021 - SW5030B-MS**

**Blank (BFD0021-BLK1)**

Prepared & Analyzed: 04/01/2022

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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Date Issued: 4/6/2022 5:59:44PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0021 - SW5030B-MS**

**Blank (BFD0021-BLK1)**

Prepared & Analyzed: 04/01/2022

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

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

**Blank (BFD0021-BLK1)**

Prepared &amp; Analyzed: 04/01/2022

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							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	50.5		ug/L	50.0		101	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	43.2		ug/L	50.0		86.4	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	50.2		ug/L	50.0		100	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.7		ug/L	50.0		97.4	70-130			

**LCS (BFD0021-BS1)**

Prepared &amp; Analyzed: 04/01/2022

1,1,1,2-Tetrachloroethane	51.0	0.4	ug/L	50.0		102	80-130			
1,1,1-Trichloroethane	42.6	1	ug/L	50.0		85.2	65-130			
1,1,2,2-Tetrachloroethane	45.4	0.4	ug/L	50.0		90.8	65-130			
1,1,2-Trichloroethane	41.4	1	ug/L	50.0		82.8	75-125			
1,1-Dichloroethane	41.4	1	ug/L	50.0		82.8	70-135			
1,1-Dichloroethylene	49.4	1	ug/L	50.0		98.9	70-130			
1,1-Dichloropropene	40.8	1	ug/L	50.0		81.7	75-135			

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0021 - SW5030B-MS**

**LCS (BFD0021-BS1)**

Prepared & Analyzed: 04/01/2022

1,2,3-Trichloropropane	43.5	1	ug/L	50.0		87.0	75-125			
1,2,4-Trichlorobenzene	52.6	1	ug/L	50.0		105	65-135			
1,2-Dichlorobenzene	46.1	0.5	ug/L	50.0		92.3	70-120			
1,2-Dichloroethane	35.9	1	ug/L	50.0		71.7	70-130			
1,2-Dichloropropane	43.4	0.5	ug/L	50.0		86.8	75-125			
1,3-Dichlorobenzene	46.6	1	ug/L	50.0		93.3	75-125			
1,3-Dichloropropane	43.1	1	ug/L	50.0		86.2	75-125			
1,4-Dichlorobenzene	44.7	1	ug/L	50.0		89.5	75-125			
2,2-Dichloropropane	51.1	1	ug/L	50.0		102	70-135			
2-Butanone (MEK)	41.1	10	ug/L	50.0		82.2	30-150			
2-Hexanone (MBK)	40.6	5	ug/L	50.0		81.2	55-130			
4-Methyl-2-pentanone (MIBK)	38.5	5	ug/L	50.0		77.1	60-135			
Acetone	48.9	10	ug/L	50.0		97.8	40-140			
Acrylonitrile	269	5	ug/L	250		107	70-130			
Benzene	43.4	1	ug/L	50.0		86.7	80-120			
Bromochloromethane	42.0	1	ug/L	50.0		84.0	65-130			
Bromodichloromethane	45.4	0.5	ug/L	50.0		90.8	75-120			
Bromoform	49.5	1	ug/L	50.0		99.1	70-130			
Bromomethane	47.2	1	ug/L	50.0		94.5	30-145			
Carbon disulfide	46.9	10	ug/L	50.0		93.9	35-160			
Carbon tetrachloride	51.9	1	ug/L	50.0		104	65-140			
Chlorobenzene	45.9	1	ug/L	50.0		91.8	80-120			
Chloroethane	48.2	1	ug/L	50.0		96.3	60-135			
Chloroform	39.8	0.5	ug/L	50.0		79.5	65-135			
Chloromethane	33.8	1	ug/L	50.0		67.7	40-125			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

**LCS (BFD0021-BS1)**

Prepared & Analyzed: 04/01/2022

cis-1,2-Dichloroethylene	39.3	1	ug/L	50.0		78.6	70-125			
cis-1,3-Dichloropropene	47.1	1	ug/L	50.0		94.2	70-130			
Dibromochloromethane	45.2	0.5	ug/L	50.0		90.4	60-135			
Dibromomethane	43.8	1	ug/L	50.0		87.7	75-125			
Dichlorodifluoromethane	42.7	1	ug/L	50.0		85.4	30-155			
Ethylbenzene	50.0	1	ug/L	50.0		99.9	75-125			
m+p-Xylenes	107	2	ug/L	100		107	75-130			
Methylene chloride	42.1	4	ug/L	50.0		84.2	55-140			
o-Xylene	51.2	1	ug/L	50.0		102	80-120			
Styrene	53.5	1	ug/L	50.0		107	65-135			
Tetrachloroethylene (PCE)	52.6	1	ug/L	50.0		105	45-150			
Toluene	44.9	1	ug/L	50.0		89.8	75-120			
trans-1,2-Dichloroethylene	41.2	1	ug/L	50.0		82.5	60-140			
trans-1,3-Dichloropropene	46.7	1	ug/L	50.0		93.4	55-140			
Trichloroethylene	45.0	1	ug/L	50.0		90.0	70-125			
Trichlorofluoromethane	50.2	1	ug/L	50.0		100	60-145			
Vinyl chloride	38.8	0.5	ug/L	50.0		77.6	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>	50.1		ug/L	50.0		100	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	45.0		ug/L	50.0		90.1	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.7		ug/L	50.0		99.3	70-130			

**Matrix Spike (BFD0021-MS1)**

Source: 22C1525-07

Prepared & Analyzed: 04/01/2022

1,1,1,2-Tetrachloroethane	53.4	0.4	ug/L	50.0	BLOD	107	80-130			
1,1,1-Trichloroethane	47.1	1	ug/L	50.0	BLOD	94.1	65-130			



## Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

**Matrix Spike (BFD0021-MS1)**

Source: 22C1525-07

Prepared &amp; Analyzed: 04/01/2022

1,1,2,2-Tetrachloroethane	45.9	0.4	ug/L	50.0	BLOD	91.7	65-130			
1,1,2-Trichloroethane	47.3	1	ug/L	50.0	BLOD	94.6	75-125			
1,1-Dichloroethane	48.8	1	ug/L	50.0	BLOD	97.6	70-135			
1,1-Dichloroethylene	50.2	1	ug/L	50.0	BLOD	100	70-130			
1,1-Dichloropropene	47.0	1	ug/L	50.0	BLOD	94.0	75-135			
1,2,3-Trichloropropane	45.0	1	ug/L	50.0	BLOD	90.0	75-125			
1,2,4-Trichlorobenzene	57.7	1	ug/L	50.0	BLOD	115	65-135			
1,2-Dichlorobenzene	50.9	0.5	ug/L	50.0	BLOD	102	70-120			
1,2-Dichloroethane	41.0	1	ug/L	50.0	BLOD	82.1	70-130			
1,2-Dichloropropane	46.3	0.5	ug/L	50.0	BLOD	92.6	75-125			
1,3-Dichlorobenzene	53.5	1	ug/L	50.0	BLOD	107	75-125			
1,3-Dichloropropane	45.1	1	ug/L	50.0	BLOD	90.1	75-125			
1,4-Dichlorobenzene	49.3	1	ug/L	50.0	BLOD	98.6	75-125			
2,2-Dichloropropane	57.7	1	ug/L	50.0	BLOD	115	70-135			
2-Butanone (MEK)	41.9	10	ug/L	50.0	BLOD	83.7	30-150			
2-Hexanone (MBK)	42.4	5	ug/L	50.0	BLOD	84.9	55-130			
4-Methyl-2-pentanone (MIBK)	40.3	5	ug/L	50.0	BLOD	80.6	60-135			
Acetone	41.1	10	ug/L	50.0	BLOD	82.2	40-140			
Acrylonitrile	236	5	ug/L	250	BLOD	94.2	70-130			
Benzene	46.1	1	ug/L	50.0	BLOD	92.2	80-120			
Bromochloromethane	45.9	1	ug/L	50.0	BLOD	91.9	65-130			
Bromodichloromethane	50.5	0.5	ug/L	50.0	BLOD	101	75-120			
Bromoform	50.4	1	ug/L	50.0	BLOD	101	70-130			
Bromomethane	57.3	1	ug/L	50.0	BLOD	115	30-145			
Carbon disulfide	49.6	10	ug/L	50.0	BLOD	99.2	35-160			

## Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

Matrix Spike (BFD0021-MS1)	Source: 22C1525-07			Prepared & Analyzed: 04/01/2022						
Carbon tetrachloride	51.5	1	ug/L	50.0	BLOD	103	65-140			
Chlorobenzene	51.2	1	ug/L	50.0	BLOD	102	80-120			
Chloroethane	54.8	1	ug/L	50.0	BLOD	110	60-135			
Chloroform	43.9	0.5	ug/L	50.0	BLOD	87.9	65-135			
Chloromethane	35.7	1	ug/L	50.0	BLOD	71.3	40-125			
cis-1,2-Dichloroethylene	59.6	1	ug/L	50.0	BLOD	119	70-125			
cis-1,3-Dichloropropene	41.7	1	ug/L	50.0	BLOD	83.4	70-130			
Dibromochloromethane	50.4	0.5	ug/L	50.0	BLOD	101	60-135			
Dibromomethane	47.1	1	ug/L	50.0	BLOD	94.2	75-125			
Dichlorodifluoromethane	28.7	1	ug/L	50.0	BLOD	57.4	30-155			
Ethylbenzene	55.8	1	ug/L	50.0	BLOD	112	75-125			
m+p-Xylenes	114	2	ug/L	100	BLOD	114	75-130			
Methylene chloride	50.3	4	ug/L	50.0	BLOD	101	55-140			
o-Xylene	54.9	1	ug/L	50.0	BLOD	110	80-120			
Styrene	59.0	1	ug/L	50.0	BLOD	118	65-135			
Tetrachloroethylene (PCE)	84.7	1	ug/L	50.0	BLOD	169	45-150			M
Toluene	52.9	1	ug/L	50.0	BLOD	106	75-120			
trans-1,2-Dichloroethylene	35.1	1	ug/L	50.0	BLOD	70.3	60-140			
trans-1,3-Dichloropropene	46.8	1	ug/L	50.0	BLOD	93.6	55-140			
Trichloroethylene	50.7	1	ug/L	50.0	BLOD	101	70-125			
Trichlorofluoromethane	54.1	1	ug/L	50.0	BLOD	108	60-145			
Vinyl chloride	41.4	0.5	ug/L	50.0	BLOD	82.7	50-145			
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Surr: 1,2-Dichloroethane-d4 (Surr)	46.4		ug/L	50.0		92.9	70-120			
Surr: 4-Bromofluorobenzene (Surr)	48.9		ug/L	50.0		97.8	75-120			
Surr: Dibromofluoromethane (Surr)	46.8		ug/L	50.0		93.7	70-130			



## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0021 - SW5030B-MS

Matrix Spike Dup (BFD0021-MSD1)	Source: 22C1525-07			Prepared & Analyzed: 04/01/2022						
Bromochloromethane	46.8	1	ug/L	50.0	BLOD	93.7	65-130	1.92	30	
Bromodichloromethane	48.8	0.5	ug/L	50.0	BLOD	97.6	75-120	3.36	30	
Bromoform	53.9	1	ug/L	50.0	BLOD	108	70-130	6.61	30	
Bromomethane	52.6	1	ug/L	50.0	BLOD	105	30-145	8.53	30	
Carbon disulfide	45.9	10	ug/L	50.0	BLOD	91.9	35-160	7.70	30	
Carbon tetrachloride	48.8	1	ug/L	50.0	BLOD	97.5	65-140	5.47	30	
Chlorobenzene	51.5	1	ug/L	50.0	BLOD	103	80-120	0.682	30	
Chloroethane	50.9	1	ug/L	50.0	BLOD	102	60-135	7.38	30	
Chloroform	43.8	0.5	ug/L	50.0	BLOD	87.6	65-135	0.342	30	
Chloromethane	33.5	1	ug/L	50.0	BLOD	67.0	40-125	6.21	30	
cis-1,2-Dichloroethylene	57.2	1	ug/L	50.0	BLOD	114	70-125	3.94	30	
cis-1,3-Dichloropropene	38.4	1	ug/L	50.0	BLOD	76.7	70-130	8.34	30	
Dibromochloromethane	47.9	0.5	ug/L	50.0	BLOD	95.9	60-135	4.98	30	
Dibromomethane	46.7	1	ug/L	50.0	BLOD	93.3	75-125	0.917	30	
Dichlorodifluoromethane	25.1	1	ug/L	50.0	BLOD	50.2	30-155	13.3	30	
Ethylbenzene	55.0	1	ug/L	50.0	BLOD	110	75-125	1.48	30	
m+p-Xylenes	115	2	ug/L	100	BLOD	115	75-130	0.0961	30	
Methylene chloride	51.5	4	ug/L	50.0	BLOD	103	55-140	2.36	30	
o-Xylene	56.8	1	ug/L	50.0	BLOD	114	80-120	3.33	30	
Styrene	57.7	1	ug/L	50.0	BLOD	115	65-135	2.18	30	
Tetrachloroethylene (PCE)	81.6	1	ug/L	50.0	BLOD	163	45-150	3.78	30	M
Toluene	48.6	1	ug/L	50.0	BLOD	97.2	75-120	8.44	30	
trans-1,2-Dichloroethylene	34.3	1	ug/L	50.0	BLOD	68.6	60-140	2.45	30	
trans-1,3-Dichloropropene	42.7	1	ug/L	50.0	BLOD	85.4	55-140	9.12	30	
Trichloroethylene	47.8	1	ug/L	50.0	BLOD	95.5	70-125	6.07	30	

## Certificate of Analysis

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0021 - SW5030B-MS**

Matrix Spike Dup (BFD0021-MSD1)	Source: 22C1525-07			Prepared & Analyzed: 04/01/2022						
Trichlorofluoromethane	49.9	1	ug/L	50.0	BLOD	99.8	60-145	8.06	30	
Vinyl chloride	39.5	0.5	ug/L	50.0	BLOD	79.1	50-145	4.52	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>45.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>91.2</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>50.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>101</i>	<i>75-120</i>			
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>46.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>93.1</i>	<i>70-130</i>			
<i>Surr: Toluene-d8 (Surr)</i>	<i>47.6</i>		<i>ug/L</i>	<i>50.0</i>		<i>95.2</i>	<i>70-130</i>			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**Blank (BFD0068-BLK1)**

Prepared & Analyzed: 04/04/2022

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	5.00	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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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**Blank (BFD0068-BLK1)**

Prepared & Analyzed: 04/04/2022

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	ND	10.0	ug/L
Benzo (a) pyrene	ND	10.0	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	5.00	ug/L
Butyl benzyl phthalate	ND	10.0	ug/L
Chlorobenzilate	ND	2.50	ug/L

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**Blank (BFD0068-BLK1)**

Prepared & Analyzed: 04/04/2022

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	1.00	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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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**Blank (BFD0068-BLK1)**

Prepared & Analyzed: 04/04/2022

Kepone	ND	10.0	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	0.14	0.10	ug/L							B
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	10.0	ug/L							
Phenacetin	ND	10.0	ug/L							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0068 - SW3580A-MS

**Blank (BFD0068-BLK1)**

Prepared & Analyzed: 04/04/2022

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							
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	59.2		ug/L	100		59.2	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	36.4		ug/L	50.0		72.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	38.5		ug/L	100		38.5	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	35.3		ug/L	50.0		70.6	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	26.5		ug/L	100		26.5	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	37.0		ug/L	50.0		74.0	27-133			

**LCS (BFD0068-BS1)**

Prepared & Analyzed: 04/04/2022

1,2,4-Trichlorobenzene	16.0	10.0	ug/L	50.0		32.0	22-135			
1,2-Dichlorobenzene	13.3	10.0	ug/L	50.0		26.5	22-115			
1,3-Dichlorobenzene	11.7	10.0	ug/L	50.0		23.4	22-112			
1,4-Dichlorobenzene	12.5	10.0	ug/L	50.0		25.0	13-112			
2,4,6-Trichlorophenol	21.3	10.0	ug/L	50.0		42.7	11-145			
2,4-Dichlorophenol	21.2	10.0	ug/L	50.0		42.5	11-75			
2,4-Dimethylphenol	20.9	5.00	ug/L	50.0		41.8	11-121			
2,4-Dinitrophenol	47.2	50.0	ug/L	50.0		94.4	11-165			
2,4-Dinitrotoluene	34.9	10.0	ug/L	50.0		69.8	17-155			
2,6-Dinitrotoluene	28.6	10.0	ug/L	50.0		57.3	15-125			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**LCS (BFD0068-BS1)**

Prepared & Analyzed: 04/04/2022

2-Chloronaphthalene	21.3	10.0	ug/L	50.0		42.5	27-89			
2-Chlorophenol	19.8	10.0	ug/L	50.0		39.5	15-110			
2-Nitrophenol	23.1	10.0	ug/L	50.0		46.2	11-115			
3,3'-Dichlorobenzidine	21.5	10.0	ug/L	50.0		43.1	25-95			
4,6-Dinitro-2-methylphenol	35.1	50.0	ug/L	50.0		70.1	25-130			
4-Bromophenyl phenyl ether	26.8	10.0	ug/L	50.0		53.5	15-110			
4-Chlorophenyl phenyl ether	21.0	10.0	ug/L	50.0		42.1	15-110			
4-Nitrophenol	12.3	50.0	ug/L	50.0		24.5	12-70			
Acenaphthene	22.5	10.0	ug/L	50.0		44.9	18-85			
Acenaphthylene	21.9	10.0	ug/L	50.0		43.8	20-75			
Acetophenone	19.1	20.0	ug/L	50.0		38.2	0-200			
alpha-Terpineol	19.9	2.50	ug/L	50.0		39.8	0-200			
Anthracene	30.6	10.0	ug/L	50.0		61.1	35-95			
Benzo (a) anthracene	31.3	10.0	ug/L	50.0		62.6	25-95			
Benzo (a) pyrene	30.2	10.0	ug/L	50.0		60.5	37-110			
Benzo (b) fluoranthene	32.6	10.0	ug/L	50.0		65.2	25-75			
Benzo (g,h,i) perylene	32.1	10.0	ug/L	50.0		64.1	25-90			
Benzo (k) fluoranthene	29.8	10.0	ug/L	50.0		59.7	25-95			
bis (2-Chloroethoxy) methane	19.2	10.0	ug/L	50.0		38.4	25-110			
bis (2-Chloroethyl) ether	18.4	10.0	ug/L	50.0		36.8	25-85			
2,2'-Oxybis (1-chloropropane)	18.4	10.0	ug/L	50.0		36.8	25-95			
bis (2-Ethylhexyl) phthalate	35.9	5.00	ug/L	50.0		71.7	30-125			
Butyl benzyl phthalate	38.2	10.0	ug/L	50.0		76.4	30-115			
Carbazole	34.7	2.50	ug/L	50.0		69.5	0-200			
Chrysene	31.0	10.0	ug/L	50.0		62.1	20-90			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0068 - SW3580A-MS**

**LCS (BFD0068-BS1)**

Prepared & Analyzed: 04/04/2022

Dibenz (a,h) anthracene	35.0	10.0	ug/L	50.0		70.0	27-125			
Diethyl phthalate	29.4	10.0	ug/L	50.0		58.9	25-120			
Dimethyl phthalate	27.4	10.0	ug/L	50.0		54.8	25-125			
Di-n-butyl phthalate	32.8	10.0	ug/L	50.0		65.7	35-115			
Di-n-octyl phthalate	35.0	10.0	ug/L	50.0		70.0	25-105			
Fluoranthene	33.0	10.0	ug/L	50.0		66.1	33-95			
Fluorene	25.2	10.0	ug/L	50.0		50.4	15-97			
Hexachlorobenzene	25.7	1.00	ug/L	50.0		51.5	25-125			
Hexachlorobutadiene	14.7	10.0	ug/L	50.0		29.5	25-125			
Hexachlorocyclopentadiene	13.5	10.0	ug/L	50.0		27.1	25-125			
Hexachloroethane	12.0	10.0	ug/L	50.0		23.9	25-125			L
Indeno (1,2,3-cd) pyrene	34.3	10.0	ug/L	50.0		68.6	25-125			
Isophorone	12.6	10.0	ug/L	50.0		25.1	10-110			
Naphthalene	17.5	0.10	ug/L	50.0		35.0	12-100			
Nitrobenzene	22.2	10.0	ug/L	50.0		44.4	30-97			
n-Nitrosodimethylamine	14.2	10.0	ug/L	50.0		28.4	10-85			
n-Nitrosodi-n-propylamine	19.8	10.0	ug/L	50.0		39.6	12-97			
n-Nitrosodiphenylamine	22.1	10.0	ug/L	50.0		44.1	12-97			
p-Chloro-m-cresol	26.1	10.0	ug/L	50.0		52.3	10-91			
Pentachlorophenol	29.2	20.0	ug/L	50.0		58.4	30-109			
Phenanthrene	32.0	10.0	ug/L	50.0		64.0	30-88			
Phenol	8.66	10.0	ug/L	50.5		17.1	10-70			
Pyrene	31.3	10.0	ug/L	50.0		62.6	27-110			
Pyridine	23.0	10.0	ug/L	50.0		46.1	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	53.6		ug/L	100		53.6	10-86			



## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0068 - SW3580A-MS

#### LCS (BFD0068-BS1)

Prepared & Analyzed: 04/04/2022

<i>Surr: 2-Fluorobiphenyl (Surr)</i>	21.8		ug/L	50.0		43.5	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	24.2		ug/L	100		24.2	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	21.9		ug/L	50.0		43.9	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	16.8		ug/L	100		16.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	32.3		ug/L	50.0		64.5	27-133			

### Batch BFD0116 - SW3580A-MS

#### Blank (BFD0116-BLK1)

Prepared & Analyzed: 04/05/2022

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	5.00	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							

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0116 - SW3580A-MS**

**Blank (BFD0116-BLK1)**

Prepared & Analyzed: 04/05/2022

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
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	ND	10.0	ug/L
Benzo (a) pyrene	ND	10.0	ug/L
Benzo (b) fluoranthene	ND	10.0	ug/L
Benzo (g,h,i) perylene	ND	10.0	ug/L

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0116 - SW3580A-MS**

**Blank (BFD0116-BLK1)**

Prepared & Analyzed: 04/05/2022

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	5.00	ug/L
Butyl benzyl phthalate	ND	10.0	ug/L
Chlorobenzilate	ND	2.50	ug/L
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	1.00	ug/L

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0116 - SW3580A-MS**

**Blank (BFD0116-BLK1)**

Prepared & Analyzed: 04/05/2022

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
Kepone	ND	10.0	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	0.10	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

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0116 - SW3580A-MS

**Blank (BFD0116-BLK1)**

Prepared & Analyzed: 04/05/2022

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	10.0	ug/L							
Phenacetin	ND	10.0	ug/L							
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>	68.2		ug/L	100		68.2	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	31.0		ug/L	50.0		62.1	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	24.4		ug/L	100		24.4	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	29.2		ug/L	50.0		58.3	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.3		ug/L	100		23.3	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	55.7		ug/L	50.0		111	27-133			

**LCS (BFD0116-BS1)**

Prepared & Analyzed: 04/05/2022

1,2,4-Trichlorobenzene	35.8	10.0	ug/L	50.0		71.6	22-135			
1,2-Dichlorobenzene	43.3	10.0	ug/L	50.0		86.5	22-115			

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0116 - SW3580A-MS

**LCS (BFD0116-BS1)**

Prepared &amp; Analyzed: 04/05/2022

1,3-Dichlorobenzene	43.3	10.0	ug/L	50.0		86.6	22-112			
1,4-Dichlorobenzene	44.1	10.0	ug/L	50.0		88.2	13-112			
2,4,6-Trichlorophenol	39.5	10.0	ug/L	50.0		79.0	11-145			
2,4-Dichlorophenol	39.0	10.0	ug/L	50.0		78.0	11-75			L
2,4-Dimethylphenol	29.4	5.00	ug/L	50.0		58.8	11-121			
2,4-Dinitrophenol	42.9	50.0	ug/L	50.0		85.7	11-165			
2,4-Dinitrotoluene	41.8	10.0	ug/L	50.0		83.5	17-155			
2,6-Dinitrotoluene	38.8	10.0	ug/L	50.0		77.5	15-125			
2-Chloronaphthalene	41.9	10.0	ug/L	50.0		83.9	27-89			
2-Chlorophenol	39.0	10.0	ug/L	50.0		78.1	15-110			
2-Nitrophenol	38.4	10.0	ug/L	50.0		76.8	11-115			
3,3'-Dichlorobenzidine	16.8	10.0	ug/L	50.0		33.6	25-95			
4,6-Dinitro-2-methylphenol	43.6	50.0	ug/L	50.0		87.2	25-130			
4-Bromophenyl phenyl ether	37.5	10.0	ug/L	50.0		75.0	15-110			
4-Chlorophenyl phenyl ether	36.9	10.0	ug/L	50.0		73.9	15-110			
4-Nitrophenol	31.4	50.0	ug/L	50.0		62.7	12-70			
Acenaphthene	40.5	10.0	ug/L	50.0		81.0	18-85			
Acenaphthylene	38.8	10.0	ug/L	50.0		77.5	20-75			L
Acetophenone	33.7	20.0	ug/L	50.0		67.3	0-200			
alpha-Terpineol	34.6	2.50	ug/L	50.0		69.2	0-200			
Anthracene	40.3	10.0	ug/L	50.0		80.6	35-95			
Benzo (a) anthracene	49.4	10.0	ug/L	50.0		98.7	25-95			L
Benzo (a) pyrene	50.2	10.0	ug/L	50.0		100	37-110			
Benzo (b) fluoranthene	50.8	10.0	ug/L	50.0		102	25-75			L
Benzo (g,h,i) perylene	55.6	10.0	ug/L	50.0		111	25-90			L



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0116 - SW3580A-MS**

**LCS (BFD0116-BS1)**

Prepared & Analyzed: 04/05/2022

Benzo (k) fluoranthene	57.8	10.0	ug/L	50.0		116	25-95			L
bis (2-Chloroethoxy) methane	32.5	10.0	ug/L	50.0		65.1	25-110			
bis (2-Chloroethyl) ether	36.5	10.0	ug/L	50.0		73.0	25-85			
2,2'-Oxybis (1-chloropropane)	35.8	10.0	ug/L	50.0		71.5	25-95			
bis (2-Ethylhexyl) phthalate	52.8	5.00	ug/L	50.0		106	30-125			
Butyl benzyl phthalate	49.1	10.0	ug/L	50.0		98.1	30-115			
Carbazole	37.6	2.50	ug/L	50.0		75.1	0-200			
Chrysene	52.6	10.0	ug/L	50.0		105	20-90			L
Dibenz (a,h) anthracene	66.9	10.0	ug/L	50.0		134	27-125			L
Diethyl phthalate	44.3	10.0	ug/L	50.0		88.7	25-120			
Dimethyl phthalate	39.5	10.0	ug/L	50.0		79.0	25-125			
Di-n-butyl phthalate	62.8	10.0	ug/L	50.0		126	35-115			L
Di-n-octyl phthalate	57.9	10.0	ug/L	50.0		116	25-105			L
Fluoranthene	62.9	10.0	ug/L	50.0		126	33-95			L
Fluorene	44.1	10.0	ug/L	50.0		88.2	15-97			
Hexachlorobenzene	34.3	1.00	ug/L	50.0		68.6	25-125			
Hexachlorobutadiene	38.4	10.0	ug/L	50.0		76.7	25-125			
Hexachlorocyclopentadiene	9.06	10.0	ug/L	50.0		18.1	25-125			L
Hexachloroethane	38.4	10.0	ug/L	50.0		76.7	25-125			
Indeno (1,2,3-cd) pyrene	62.2	10.0	ug/L	50.0		124	25-125			
Isophorone	21.0	10.0	ug/L	50.0		42.0	10-110			
Naphthalene	46.0	0.10	ug/L	50.0		92.0	12-100			
Nitrobenzene	37.6	10.0	ug/L	50.0		75.2	30-97			
n-Nitrosodimethylamine	20.7	10.0	ug/L	50.0		41.5	10-85			
n-Nitrosodi-n-propylamine	37.0	10.0	ug/L	50.0		74.0	12-97			

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0116 - SW3580A-MS

**LCS (BFD0116-BS1)**

Prepared &amp; Analyzed: 04/05/2022

n-Nitrosodiphenylamine	31.5	10.0	ug/L	50.0		63.0	12-97			
p-Chloro-m-cresol	40.2	10.0	ug/L	50.0		80.3	10-91			
Pentachlorophenol	28.0	20.0	ug/L	50.0		56.0	30-109			
Phenanthrene	45.6	10.0	ug/L	50.0		91.2	30-88			L
Phenol	39.2	10.0	ug/L	50.5		77.6	10-70			L
Pyrene	57.2	10.0	ug/L	50.0		114	27-110			L
Pyridine	18.9	10.0	ug/L	50.0		37.9	0-200			
<hr/>										
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	77.8		ug/L	100		77.8	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	44.9		ug/L	50.0		89.8	9-87			S
<i>Surr: 2-Fluorophenol (Surr)</i>	51.6		ug/L	100		51.6	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	37.6		ug/L	50.0		75.3	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	81.3		ug/L	100		81.3	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	57.1		ug/L	50.0		114	27-133			

**Matrix Spike (BFD0116-MS1)**

Source: 22C1455-03

Prepared &amp; Analyzed: 04/05/2022

1,2,4-Trichlorobenzene	23.1	10.0	ug/L	50.0	BLOD	46.2	22-65			
1,2-Dichlorobenzene	20.8	10.0	ug/L	50.0	BLOD	41.7	22-60			
1,3-Dichlorobenzene	18.9	10.0	ug/L	50.0	BLOD	37.8	22-60			
1,4-Dichlorobenzene	19.9	10.0	ug/L	50.0	BLOD	39.8	13-60			
2,4,6-Trichlorophenol	26.3	10.0	ug/L	50.0	BLOD	52.6	11-75			
2,4-Dichlorophenol	29.9	10.0	ug/L	50.0	BLOD	59.7	11-75			
2,4-Dimethylphenol	28.3	5.00	ug/L	50.0	BLOD	56.6	11-65			
2,4-Dinitrophenol	54.4	50.0	ug/L	50.0	BLOD	109	11-110			
2,4-Dinitrotoluene	37.9	10.0	ug/L	50.0	BLOD	75.8	17-95			
2,6-Dinitrotoluene	30.7	10.0	ug/L	50.0	BLOD	61.4	15-125			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0116 - SW3580A-MS

Matrix Spike (BFD0116-MS1)	Source: 22C1455-03			Prepared & Analyzed: 04/05/2022						
2-Chloronaphthalene	26.8	10.0	ug/L	50.0	BLOD	53.5	27-89			
2-Chlorophenol	25.7	10.0	ug/L	50.0	BLOD	51.4	19-64			
2-Nitrophenol	31.5	10.0	ug/L	50.0	BLOD	63.0	11-75			
3,3'-Dichlorobenzidine	23.7	10.0	ug/L	50.0	BLOD	47.4	10-85			
4,6-Dinitro-2-methylphenol	40.3	50.0	ug/L	50.0	BLOD	80.6	40-130			
4-Bromophenyl phenyl ether	28.6	10.0	ug/L	50.0	BLOD	57.3	15-110			
4-Chlorophenyl phenyl ether	23.0	10.0	ug/L	50.0	BLOD	46.1	15-110			
4-Nitrophenol	14.6	50.0	ug/L	50.0	BLOD	29.2	12-70			
Acenaphthene	26.4	10.0	ug/L	50.0	BLOD	52.7	15-90			
Acenaphthylene	26.3	10.0	ug/L	50.0	BLOD	52.6	15-99			
Acetophenone	24.0	20.0	ug/L	50.0	BLOD	48.0	0-200			
alpha-Terpineol	26.1	2.50	ug/L	50.0	BLOD	52.2	0-200			
Anthracene	31.0	10.0	ug/L	50.0	BLOD	62.1	20-95			
Benzo (a) anthracene	40.7	10.0	ug/L	50.0	BLOD	81.3	25-95			
Benzo (a) pyrene	40.6	10.0	ug/L	50.0	BLOD	81.2	25-82			
Benzo (b) fluoranthene	45.6	10.0	ug/L	50.0	BLOD	91.1	25-75			M
Benzo (g,h,i) perylene	35.1	10.0	ug/L	50.0	BLOD	70.2	25-90			
Benzo (k) fluoranthene	41.3	10.0	ug/L	50.0	BLOD	82.6	25-95			
bis (2-Chloroethoxy) methane	26.9	10.0	ug/L	50.0	BLOD	53.8	25-85			
bis (2-Chloroethyl) ether	24.7	10.0	ug/L	50.0	BLOD	49.5	25-85			
2,2'-Oxybis (1-chloropropane)	26.4	10.0	ug/L	50.0	BLOD	52.7	25-87			
bis (2-Ethylhexyl) phthalate	50.1	5.00	ug/L	50.0	BLOD	100	30-125			
Butyl benzyl phthalate	53.1	10.0	ug/L	50.0	BLOD	106	30-115			
Carbazole	37.0	2.50	ug/L	50.0	BLOD	74.1	0-200			
Chrysene	41.7	10.0	ug/L	50.0	BLOD	83.5	20-90			

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFD0116 - SW3580A-MS

Matrix Spike (BFD0116-MS1)	Source: 22C1455-03			Prepared & Analyzed: 04/05/2022						
Dibenz (a,h) anthracene	40.2	10.0	ug/L	50.0	BLOD	80.5	27-125			
Diethyl phthalate	31.5	10.0	ug/L	50.0	BLOD	63.0	25-120			
Dimethyl phthalate	29.8	10.0	ug/L	50.0	BLOD	59.6	25-125			
Di-n-butyl phthalate	37.4	10.0	ug/L	50.0	BLOD	74.8	25-115			
Di-n-octyl phthalate	54.2	10.0	ug/L	50.0	BLOD	108	22-105			M
Fluoranthene	34.5	10.0	ug/L	50.0	BLOD	69.0	25-96			
Fluorene	26.5	10.0	ug/L	50.0	BLOD	52.9	15-97			
Hexachlorobenzene	28.7	1.00	ug/L	50.0	BLOD	57.3	25-125			
Hexachlorobutadiene	24.4	10.0	ug/L	50.0	BLOD	48.9	25-125			
Hexachlorocyclopentadiene	20.8	10.0	ug/L	50.0	BLOD	41.5	10-90			
Hexachloroethane	21.2	10.0	ug/L	50.0	BLOD	42.5	25-125			
Indeno (1,2,3-cd) pyrene	39.2	10.0	ug/L	50.0	BLOD	78.4	25-125			
Isophorone	18.2	10.0	ug/L	50.0	BLOD	36.5	10-110			
Naphthalene	23.1	0.10	ug/L	50.0	BLOD	46.2	12-100			
Nitrobenzene	29.4	10.0	ug/L	50.0	BLOD	58.7	27-77			
n-Nitrosodimethylamine	20.3	10.0	ug/L	50.0	BLOD	40.6	10-85			
n-Nitrosodi-n-propylamine	26.9	10.0	ug/L	50.0	BLOD	53.7	12-97			
n-Nitrosodiphenylamine	22.3	10.0	ug/L	50.0	BLOD	44.7	12-97			
p-Chloro-m-cresol	33.2	10.0	ug/L	50.0	BLOD	66.4	10-91			
Pentachlorophenol	34.1	20.0	ug/L	50.0	BLOD	68.2	27-109			
Phenanthrene	33.2	10.0	ug/L	50.0	BLOD	66.3	35-115			
Phenol	12.2	10.0	ug/L	50.5	BLOD	24.2	10-70			
Pyrene	39.3	10.0	ug/L	50.0	BLOD	78.6	23-110			
Pyridine	32.1	10.0	ug/L	50.0	BLOD	64.2	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>56.4</i>		<i>ug/L</i>	<i>100</i>		<i>56.4</i>	<i>10-86</i>			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0116 - SW3580A-MS</b>										
<b>Matrix Spike (BFD0116-MS1)</b>		<b>Source: 22C1455-03</b>			<b>Prepared &amp; Analyzed: 04/05/2022</b>					
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	27.1		ug/L	50.0		54.2	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	31.8		ug/L	100		31.8	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	27.2		ug/L	50.0		54.4	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.0		ug/L	100		23.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	46.2		ug/L	50.0		92.4	27-133			
<b>Matrix Spike Dup (BFD0116-MSD1)</b>		<b>Source: 22C1455-03</b>			<b>Prepared &amp; Analyzed: 04/05/2022</b>					
1,2,4-Trichlorobenzene	34.5	10.0	ug/L	50.0	BLOD	69.0	22-65	39.7	20	M, P
1,2-Dichlorobenzene	32.4	10.0	ug/L	50.0	BLOD	64.8	22-60	43.4	20	M, P
1,3-Dichlorobenzene	29.3	10.0	ug/L	50.0	BLOD	58.6	22-60	43.1	20	P
1,4-Dichlorobenzene	30.7	10.0	ug/L	50.0	BLOD	61.4	13-60	42.7	20	M, P
2,4,6-Trichlorophenol	39.3	10.0	ug/L	50.0	BLOD	78.6	11-75	39.6	20	M, P
2,4-Dichlorophenol	44.6	10.0	ug/L	50.0	BLOD	89.1	11-75	39.5	20	M, P
2,4-Dimethylphenol	40.5	5.00	ug/L	50.0	BLOD	80.9	11-65	35.5	20	M, P
2,4-Dinitrophenol	71.0	50.0	ug/L	50.0	BLOD	142	11-110	26.3	20	M, P
2,4-Dinitrotoluene	53.4	10.0	ug/L	50.0	BLOD	107	17-95	33.9	20	M, P
2,6-Dinitrotoluene	47.7	10.0	ug/L	50.0	BLOD	95.4	15-125	43.4	20	P
2-Chloronaphthalene	41.6	10.0	ug/L	50.0	BLOD	83.2	27-89	43.4	20	P
2-Chlorophenol	41.8	10.0	ug/L	50.0	BLOD	83.5	19-64	47.6	20	M, P
2-Nitrophenol	47.9	10.0	ug/L	50.0	BLOD	95.8	11-75	41.3	20	M, P
3,3'-Dichlorobenzidine	28.2	10.0	ug/L	50.0	BLOD	56.4	10-85	17.4	20	
4,6-Dinitro-2-methylphenol	55.2	50.0	ug/L	50.0	BLOD	110	40-130	31.1	20	P
4-Bromophenyl phenyl ether	44.0	10.0	ug/L	50.0	BLOD	88.1	15-110	42.3	20	P
4-Chlorophenyl phenyl ether	36.6	10.0	ug/L	50.0	BLOD	73.1	15-110	45.4	20	P
4-Nitrophenol	21.4	50.0	ug/L	50.0	BLOD	42.7	12-70	37.8	20	P

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0116 - SW3580A-MS**

Matrix Spike Dup (BFD0116-MSD1)	Source: 22C1455-03			Prepared & Analyzed: 04/05/2022						
Acenaphthene	41.6	10.0	ug/L	50.0	BLOD	83.2	15-90	44.9	20	P
Acenaphthylene	40.4	10.0	ug/L	50.0	BLOD	80.7	15-99	42.1	20	P
Acetophenone	37.0	20.0	ug/L	50.0	BLOD	74.0	0-200	42.7	20	P
alpha-Terpineol	37.2	2.50	ug/L	50.0	BLOD	74.4	0-200	35.0	20	P
Anthracene	43.8	10.0	ug/L	50.0	BLOD	87.7	20-95	34.1	20	P
Benzo (a) anthracene	48.7	10.0	ug/L	50.0	BLOD	97.3	25-95	17.9	20	M
Benzo (a) pyrene	47.6	10.0	ug/L	50.0	BLOD	95.2	25-82	15.9	20	M
Benzo (b) fluoranthene	53.9	10.0	ug/L	50.0	BLOD	108	25-75	16.7	20	M
Benzo (g,h,i) perylene	45.8	10.0	ug/L	50.0	BLOD	91.7	25-90	26.5	20	M, P
Benzo (k) fluoranthene	48.1	10.0	ug/L	50.0	BLOD	96.2	25-95	15.2	20	M
bis (2-Chloroethoxy) methane	40.0	10.0	ug/L	50.0	BLOD	79.9	25-85	39.1	20	P
bis (2-Chloroethyl) ether	38.7	10.0	ug/L	50.0	BLOD	77.4	25-85	44.0	20	P
2,2'-Oxybis (1-chloropropane)	43.1	10.0	ug/L	50.0	BLOD	86.1	25-87	48.1	20	P
bis (2-Ethylhexyl) phthalate	59.6	5.00	ug/L	50.0	BLOD	119	30-125	17.3	20	
Butyl benzyl phthalate	65.9	10.0	ug/L	50.0	BLOD	132	30-115	21.6	20	M, P
Carbazole	48.7	2.50	ug/L	50.0	BLOD	97.3	0-200	27.1	20	P
Chrysene	50.9	10.0	ug/L	50.0	BLOD	102	20-90	19.8	20	M
Dibenz (a,h) anthracene	51.2	10.0	ug/L	50.0	BLOD	102	27-125	24.0	20	P
Diethyl phthalate	44.4	10.0	ug/L	50.0	BLOD	88.8	25-120	33.9	20	P
Dimethyl phthalate	45.6	10.0	ug/L	50.0	BLOD	91.2	25-125	41.9	20	P
Di-n-butyl phthalate	49.2	10.0	ug/L	50.0	BLOD	98.3	25-115	27.2	20	P
Di-n-octyl phthalate	62.4	10.0	ug/L	50.0	BLOD	125	22-105	14.1	20	M
Fluoranthene	44.7	10.0	ug/L	50.0	BLOD	89.4	25-96	25.7	20	P
Fluorene	41.8	10.0	ug/L	50.0	BLOD	83.5	15-97	44.9	20	P
Hexachlorobenzene	41.0	1.00	ug/L	50.0	BLOD	82.0	25-125	35.4	20	P



## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0116 - SW3580A-MS</b>										
<b>Matrix Spike Dup (BFD0116-MSD1)</b>		<b>Source: 22C1455-03</b>			<b>Prepared &amp; Analyzed: 04/05/2022</b>					
Hexachlorobutadiene	36.0	10.0	ug/L	50.0	BLOD	72.0	25-125	38.2	20	P
Hexachlorocyclopentadiene	29.6	10.0	ug/L	50.0	BLOD	59.3	10-90	35.2	20	P
Hexachloroethane	32.5	10.0	ug/L	50.0	BLOD	64.9	25-125	41.8	20	P
Indeno (1,2,3-cd) pyrene	50.6	10.0	ug/L	50.0	BLOD	101	25-125	25.4	20	P
Isophorone	27.1	10.0	ug/L	50.0	BLOD	54.2	10-110	39.1	20	P
Naphthalene	34.7	0.10	ug/L	50.0	BLOD	69.4	12-100	40.2	20	P
Nitrobenzene	47.2	10.0	ug/L	50.0	BLOD	94.4	27-77	46.7	20	M, P
n-Nitrosodimethylamine	30.4	10.0	ug/L	50.0	BLOD	60.7	10-85	39.7	20	P
n-Nitrosodi-n-propylamine	40.4	10.0	ug/L	50.0	BLOD	80.7	12-97	40.1	20	P
n-Nitrosodiphenylamine	34.3	10.0	ug/L	50.0	BLOD	68.5	12-97	42.1	20	P
p-Chloro-m-cresol	50.3	10.0	ug/L	50.0	BLOD	101	10-91	41.1	20	M, P
Pentachlorophenol	45.9	20.0	ug/L	50.0	BLOD	91.7	27-109	29.4	20	P
Phenanthrene	46.2	10.0	ug/L	50.0	BLOD	92.3	35-115	32.8	20	P
Phenol	19.0	10.0	ug/L	50.5	BLOD	37.6	10-70	43.3	20	P
Pyrene	54.2	10.0	ug/L	50.0	BLOD	108	23-110	31.8	20	P
Pyridine	45.5	10.0	ug/L	50.0	BLOD	90.9	0-200	34.4	20	P
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>88.2</i>		ug/L	<i>100</i>		<i>88.2</i>	<i>10-86</i>			<i>S</i>
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>42.2</i>		ug/L	<i>50.0</i>		<i>84.4</i>	<i>9-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>49.9</i>		ug/L	<i>100</i>		<i>49.9</i>	<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>43.2</i>		ug/L	<i>50.0</i>		<i>86.3</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>36.6</i>		ug/L	<i>100</i>		<i>36.6</i>	<i>5-33</i>			<i>S</i>
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>58.3</i>		ug/L	<i>50.0</i>		<i>117</i>	<i>27-133</i>			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0075 - SW3510C/EPA600-ECD**

**Blank (BFD0075-BLK1)**

Prepared & Analyzed: 04/04/2022

4,4'-DDD	ND	0.050	ug/L							
4,4'-DDE	ND	0.050	ug/L							
4,4'-DDT	ND	0.050	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							
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							
<hr/>										
Surr: TCMX	0.137		ug/L	0.200		68.6	18-112			
Surr: DCB	0.147		ug/L	0.200		73.4	27-131			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFD0075 - SW3510C/EPA600-ECD**

**Blank (BFD0075-BLK2)**

Prepared: 04/04/2022 Analyzed: 04/05/2022

PCB as Aroclor 1016	ND	0.200	ug/L							
PCB as Aroclor 1221	ND	0.200	ug/L							
PCB as Aroclor 1232	ND	0.200	ug/L							
PCB as Aroclor 1242	ND	0.200	ug/L							
PCB as Aroclor 1248	ND	0.200	ug/L							
PCB as Aroclor 1254	ND	0.200	ug/L							
PCB as Aroclor 1260	ND	0.200	ug/L							

<i>Surr: DCB</i>	0.169		ug/L	0.200		84.4	30-105			
<i>Surr: TCMX</i>	0.143		ug/L	0.200		71.4	30-105			

**LCS (BFD0075-BS1)**

Prepared & Analyzed: 04/04/2022

4,4'-DDD	0.101	0.050	ug/L	0.100		101	23-134			
4,4'-DDE	0.087	0.050	ug/L	0.100		86.6	23-134			
4,4'-DDT	0.092	0.050	ug/L	0.100		91.7	23-134			
Aldrin	0.059	0.050	ug/L	0.100		59.3	23-134			
alpha-BHC	0.076	0.050	ug/L	0.100		76.1	23-134			
beta-BHC	0.077	0.050	ug/L	0.100		76.7	23-134			
delta-BHC	0.087	0.050	ug/L	0.100		86.8	23-134			
Dieldrin	0.069	0.050	ug/L	0.100		69.0	23-134			
Endosulfan I	0.076	0.050	ug/L	0.100		76.1	23-134			
Endosulfan II	0.092	0.050	ug/L	0.100		92.3	23-134			
Endosulfan sulfate	0.078	0.050	ug/L	0.100		78.2	23-134			
Endrin	0.091	0.050	ug/L	0.100		91.0	23-134			
Endrin aldehyde	0.091	0.050	ug/L	0.100		91.4	23-134			
gamma-BHC (Lindane)	0.067	0.050	ug/L	0.100		67.4	23-134			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0075 - SW3510C/EPA600-ECD</b>										
<b>LCS (BFD0075-BS1)</b> <span style="float: right;">Prepared &amp; Analyzed: 04/04/2022</span>										
Heptachlor	0.069	0.050	ug/L	0.100		69.1	23-134			
Heptachlor epoxide	0.082	0.050	ug/L	0.100		82.4	23-134			
Methoxychlor	0.104	0.050	ug/L	0.100		104	23-134			
Mirex	0.091	0.050	ug/L	0.100		91.4	23-134			
<i>Surr: TCMX</i>	<i>0.121</i>		ug/L	<i>0.200</i>		<i>60.7</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.177</i>		ug/L	<i>0.200</i>		<i>88.3</i>	<i>27-131</i>			
<b>LCS (BFD0075-BS2)</b> <span style="float: right;">Prepared: 04/04/2022 Analyzed: 04/05/2022</span>										
PCB as Aroclor 1016	0.953	0.200	ug/L	1.00		95.3	70-130			
PCB as Aroclor 1260	0.877	0.200	ug/L	1.00		87.7	70-130			
<i>Surr: DCB</i>	<i>0.131</i>		ug/L	<i>0.200</i>		<i>65.3</i>	<i>30-105</i>			
<i>Surr: TCMX</i>	<i>0.151</i>		ug/L	<i>0.200</i>		<i>75.4</i>	<i>30-105</i>			
<b>LCS (BFD0075-BS3)</b> <span style="float: right;">Prepared &amp; Analyzed: 04/04/2022</span>										
Toxaphene	2.06	1.00	ug/L	2.50		82.4	23-134			
<i>Surr: TCMX</i>	<i>0.115</i>		ug/L	<i>0.200</i>		<i>57.4</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.170</i>		ug/L	<i>0.200</i>		<i>84.8</i>	<i>27-131</i>			
<b>LCS (BFD0075-BS4)</b> <span style="float: right;">Prepared &amp; Analyzed: 04/04/2022</span>										
Chlordane	2.03	0.200	ug/L	2.50		81.1	23-134			
<i>Surr: TCMX</i>	<i>0.147</i>		ug/L	<i>0.200</i>		<i>73.7</i>	<i>18-112</i>			
<i>Surr: DCB</i>	<i>0.143</i>		ug/L	<i>0.200</i>		<i>71.6</i>	<i>27-131</i>			

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Organochlorine Herbicides by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFC1275 - SW8151A/EPA600</b>										
<b>Blank (BFC1275-BLK1)</b>			Prepared: 03/31/2022 Analyzed: 04/04/2022							
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>	<i>1.08</i>		ug/L	<i>1.11</i>		<i>97.2</i>	<i>48.5-134</i>			
<b>LCS (BFC1275-BS1)</b>			Prepared: 03/31/2022 Analyzed: 04/04/2022							
2,4,5-T	0.486	0.500	ug/L	0.556		87.5	62-145			
2,4,5-TP (Silvex)	0.589	0.500	ug/L	0.556		106	62-132			
2,4-D	0.431	0.500	ug/L	0.556		77.6	74-139			
Dinoseb	0.486	0.500	ug/L	0.556		87.5	59-136			
Pentachlorophenol	0.508	0.500	ug/L	0.556		91.4	62-118			
<i>Surr: DCAA (Surr)</i>	<i>1.13</i>		ug/L	<i>1.11</i>		<i>102</i>	<i>70-130</i>			
<b>Matrix Spike (BFC1275-MS1)</b>			<b>Source: 22C1295-01</b>		Prepared: 03/31/2022 Analyzed: 04/04/2022					
2,4,5-T	0.613	0.500	ug/L	0.556	BLOD	110	53-144			
2,4,5-TP (Silvex)	0.621	0.500	ug/L	0.556	BLOD	112	52-129			
2,4-D	0.503	0.500	ug/L	0.556	BLOD	90.6	53-126			
Dinoseb	0.515	0.500	ug/L	0.556	BLOD	92.7	60-137			
Pentachlorophenol	0.595	0.500	ug/L	0.556	BLOD	107	52-124			
<i>Surr: DCAA (Surr)</i>	<i>1.50</i>		ug/L	<i>1.11</i>		<i>135</i>	<i>70-130</i>			S
<b>Matrix Spike Dup (BFC1275-MSD1)</b>			<b>Source: 22C1295-01</b>		Prepared: 03/31/2022 Analyzed: 04/04/2022					
2,4,5-T	0.458	0.500	ug/L	0.556	BLOD	82.5	53-144	28.8	20	P
2,4,5-TP (Silvex)	0.543	0.500	ug/L	0.556	BLOD	97.8	52-129	13.4	20	

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Organochlorine Herbicides by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFC1275 - SW8151A/EPA600</b>										
<b>Matrix Spike Dup (BFC1275-MSD1)</b>		<b>Source: 22C1295-01</b>		<b>Prepared: 03/31/2022 Analyzed: 04/04/2022</b>						
2,4-D	0.608	0.500	ug/L	0.556	BLOD	109	53-126	18.8	20	
Dinoseb	0.395	0.500	ug/L	0.556	BLOD	71.0	60-137	26.5	20	P
Pentachlorophenol	0.436	0.500	ug/L	0.556	BLOD	78.6	52-124	30.7	20	P
<i>Surr: DCAA (Surr)</i>	<i>1.07</i>		ug/L	<i>1.11</i>		<i>96.6</i>	<i>70-130</i>			
<b>Batch BFD0094 - SW8151A/EPA600</b>										
<b>Blank (BFD0094-BLK1)</b>		<b>Prepared: 04/04/2022 Analyzed: 04/06/2022</b>								
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>	<i>1.17</i>		ug/L	<i>1.11</i>		<i>105</i>	<i>48.5-134</i>			
<b>LCS (BFD0094-BS1)</b>		<b>Prepared: 04/04/2022 Analyzed: 04/06/2022</b>								
2,4,5-T	0.491	0.500	ug/L	0.556		88.3	62-145			
2,4,5-TP (Silvex)	0.502	0.500	ug/L	0.556		90.4	62-132			
2,4-D	0.584	0.500	ug/L	0.556		105	74-139			
Dinoseb	0.501	0.500	ug/L	0.556		90.2	59-136			
Pentachlorophenol	0.496	0.500	ug/L	0.556		89.4	62-118			
<i>Surr: DCAA (Surr)</i>	<i>1.07</i>		ug/L	<i>1.11</i>		<i>96.5</i>	<i>70-130</i>			



## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Micro-extractables by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0114 - SW8011</b>										
<b>Blank (BFD0114-BLK1)</b>				Prepared & Analyzed: 04/05/2022						
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							
<b>LCS (BFD0114-BS1)</b>				Prepared & Analyzed: 04/05/2022						
1,2-Dibromoethane (EDB)	0.281	0.010	ug/L	0.250		112	65-135			
1,2,3-Trichloropropane	0.262	0.010	ug/L	0.250		105	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.294	0.010	ug/L	0.250		118	65-135			
<b>Matrix Spike (BFD0114-MS1)</b>				<b>Source: 22C1556-08</b>		Prepared & Analyzed: 04/05/2022				
1,2-Dibromoethane (EDB)	0.240	0.010	ug/L	0.251	BLOD	95.5	65-135			
1,2,3-Trichloropropane	0.205	0.010	ug/L	0.251	BLOD	81.8	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.268	0.010	ug/L	0.251	BLOD	107	65-135			
<b>Matrix Spike Dup (BFD0114-MSD1)</b>				<b>Source: 22C1556-08</b>		Prepared & Analyzed: 04/05/2022				
1,2-Dibromoethane (EDB)	0.263	0.010	ug/L	0.250	BLOD	105	65-135	9.48	20	
1,2,3-Trichloropropane	0.245	0.010	ug/L	0.250	BLOD	98.0	65-135	17.9	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.320	0.010	ug/L	0.250	BLOD	128	65-135	17.8	20	

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFD0050 - No Prep Wet Chem</b>										
<b>Blank (BFD0050-BLK1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	ND	1.00	mg/L							
<b>LCS (BFD0050-BS1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	4.91	1	mg/L	5.00		98.2	80-120			
<b>LCS Dup (BFD0050-BSD1)</b>				Prepared & Analyzed: 04/02/2022						
Sulfide	4.79	1	mg/L	5.00		95.8	80-120	2.47	20	
<b>Matrix Spike (BFD0050-MS1)</b>				Source: 22C1547-01 Prepared & Analyzed: 04/02/2022						
Sulfide	4.89	1.00	mg/L	5.00	BLOD	97.8	75-125			
<b>Matrix Spike Dup (BFD0050-MSD1)</b>				Source: 22C1547-01 Prepared & Analyzed: 04/02/2022						
Sulfide	4.71	1.00	mg/L	5.00	BLOD	94.2	75-125	3.75	20	
<b>Batch BFD0066 - No Prep Wet Chem</b>										
<b>Blank (BFD0066-BLK1)</b>				Prepared & Analyzed: 04/01/2022						
Cyanide	ND	0.01	mg/L							
<b>LCS (BFD0066-BS1)</b>				Prepared & Analyzed: 04/01/2022						
Cyanide	0.24	0.01	mg/L	0.250		95.7	80-120			
<b>Matrix Spike (BFD0066-MS1)</b>				Source: 22C1547-01 Prepared & Analyzed: 04/01/2022						
Cyanide	0.23	0.01	mg/L	0.250	BLOD	91.1	80-120			
<b>Matrix Spike Dup (BFD0066-MSD1)</b>				Source: 22C1547-01 Prepared & Analyzed: 04/01/2022						
Cyanide	0.23	0.01	mg/L	0.250	BLOD	92.4	80-120	1.36	20	

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.8 R5.4</b>		
22C1547-01	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1547-02	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1547-02RE1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0105	AD20013
22C1547-03	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1547-04	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1547-05	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
22C1547-06	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep Wet Chem</b>		
22C1547-01	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-02	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-03	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-04	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-05	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-06	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
22C1547-01	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
22C1547-02	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
22C1547-03	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
22C1547-04	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
22C1547-05	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
22C1547-06	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method: SW3510C/EPA600-ECD</b>		

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method: SW3510C/EPA600-ECD</b>		
22C1547-01	940 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
22C1547-02	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0174	AD20002
22C1547-03	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0174	AD20002
22C1547-04	1010 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
22C1547-05	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0174	AD20002
22C1547-06	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0174	AD20002
22C1547-01	940 mL / 1.00 mL	SW8082A	BFD0075	SFD0135	AC20177
22C1547-02	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0175	AC20177
22C1547-03	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0175	AC20177
22C1547-04	1010 mL / 1.00 mL	SW8082A	BFD0075	SFD0135	AC20177
22C1547-05	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0175	AC20177
22C1547-06	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0175	AC20177
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW3580A-MS</b>		
22C1547-01	960 mL / 1.00 mL	SW8270E	BFD0068	SFD0129	AC20134
22C1547-03	1000 mL / 1.00 mL	SW8270E	BFD0068	SFD0138	AA20062
22C1547-04	1000 mL / 1.00 mL	SW8270E	BFD0068	SFD0129	AC20134
22C1547-02	1050 mL / 1.00 mL	SW8270E	BFD0116	SFD0142	AC20134
22C1547-05	990 mL / 1.00 mL	SW8270E	BFD0116	SFD0142	AC20134
22C1547-06	970 mL / 1.00 mL	SW8270E	BFD0116	SFD0142	AC20134
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22C1547-01	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0079	AC20084
22C1547-02	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0079	AC20084
22C1547-03	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0079	AC20084
22C1547-04	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0079	AC20084

## Certificate of Analysis

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Date Issued: 4/6/2022 5:59:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22C1547-05	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0079	AC20084
22C1547-06	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1547-07	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
22C1547-08	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7470A</b>		
22C1547-01	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1547-02	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1547-03	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1547-04	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1547-05	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
22C1547-06	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Micro-extractables by GC/ECD</b>			<b>Preparation Method: SW8011</b>		
22C1547-01	59.2 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-02	59.4 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-03	59.7 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-04	60.0 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-05	59.7 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-06	59.6 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
22C1547-07	59.3 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method: SW8151A/EPA600</b>		
22C1547-04	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0197	AC20120

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Date Issued: 4/6/2022 5:59:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method: SW8151A/EPA600</b>		
22C1547-05	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0197	AC20120
22C1547-06	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0197	AC20120
22C1547-01	900 mL / 5.00 mL	SW8151A	BFD0094	SFD0197	AC20120
22C1547-02	900 mL / 5.00 mL	SW8151A	BFD0094	SFD0197	AC20120
22C1547-03	900 mL / 5.00 mL	SW8151A	BFD0094	SFD0197	AC20120



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Date Issued: 4/6/2022 5:59:44PM

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.8 R5.4</b>	
BFD0019-BLK1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-BS1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MS1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MS2	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MSD1	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013
BFD0019-MSD2	50.0 mL / 50.0 mL	SW6020B	BFD0019	SFD0080	AD20013

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFD0050-BLK1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-BS1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-BSD1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MRL1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MS1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0050-MSD1	6.00 mL / 6.00 mL	SW9215	BFD0050	SFD0183	
BFD0066-BLK1	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
BFD0066-BS1	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
BFD0066-MS1	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010
BFD0066-MSD1	6.00 mL / 6.00 mL	SW9012B	BFD0066	SFD0071	AD20010

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW3510C/EPA600-ECD</b>	

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW3510C/EPA600-ECD</b>	
BFD0075-BLK1	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
BFD0075-BLK2		SW8081B	BFD0075	SFD0135	AC20177
BFD0075-BS1	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
BFD0075-BS2		SW8081B	BFD0075	SFD0135	AC20177
BFD0075-BS3	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
BFD0075-BS4	1000 mL / 1.00 mL	SW8081B	BFD0075	SFD0132	AD20002
BFD0075-BLK1		SW8082A	BFD0075	SFD0132	AD20002
BFD0075-BLK2	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0135	AC20177
BFD0075-BS1		SW8082A	BFD0075	SFD0132	AD20002
BFD0075-BS2	1000 mL / 1.00 mL	SW8082A	BFD0075	SFD0135	AC20177
BFD0075-BS3		SW8082A	BFD0075	SFD0132	AD20002
BFD0075-BS4		SW8082A	BFD0075	SFD0132	AD20002

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW3580A-MS</b>	
BFD0068-BLK1	1000 mL / 1.00 mL	SW8270E	BFD0068	SFD0129	AC20134
BFD0068-BS1	1000 mL / 1.00 mL	SW8270E	BFD0068	SFD0129	AC20134
BFD0116-BLK1	1000 mL / 1.00 mL	SW8270E	BFD0116	SFD0189	AA20062
BFD0116-BS1	1000 mL / 1.00 mL	SW8270E	BFD0116	SFD0189	AA20062
BFD0116-MS1	1000 mL / 1.00 mL	SW8270E	BFD0116	SFD0142	AC20134
BFD0116-MSD1	1000 mL / 1.00 mL	SW8270E	BFD0116	SFD0142	AC20134

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFD0021-BLK1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-BS1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-MS1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084
BFD0021-MSD1	5.00 mL / 5.00 mL	SW8260D	BFD0021	SFD0024	AC20084

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Date Issued: 4/6/2022 5:59:44PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW7470A</b>	
BFD0058-BLK1	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
BFD0058-BS1	20.0 mL / 20.0 mL	SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MS1		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MS2		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MSD1		SW7470A	BFD0058	SFD0092	AD20016
BFD0058-MSD2		SW7470A	BFD0058	SFD0092	AD20016

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Micro-extractables by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW8011</b>	
BFD0114-BLK1	60.0 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
BFD0114-BS1	60.0 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
BFD0114-MS1	59.8 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020
BFD0114-MSD1	59.9 mL / 2.00 mL	SW8011	BFD0114	SFD0170	AD20020

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW8151A/EPA600</b>	
BFC1275-BLK1	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0118	AC20120
BFC1275-BS1	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0118	AC20120
BFC1275-MS1	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0118	AC20120
BFC1275-MSD1	900 mL / 5.00 mL	SW8151A	BFC1275	SFD0118	AC20120
BFD0094-BLK1	900 mL / 5.00 mL	SW8151A	BFD0094	SFD0197	AC20120
BFD0094-BS1	900 mL / 5.00 mL	SW8151A	BFD0094	SFD0197	AC20120

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### Certified Analyses included in this Report

Analyte	Certifications
<b>SW6020B in Non-Potable Water</b>	
Antimony	VELAP,NCDEQ,WVDEP,NHDES
Arsenic	VELAP,WVDEP,NHDES
Barium	VELAP,WVDEP,NHDES
Beryllium	VELAP,WVDEP,NHDES
Cadmium	VELAP,WVDEP,NHDES
Chromium	VELAP,WVDEP,NHDES
Cobalt	VELAP,WVDEP,NHDES
Copper	VELAP,WVDEP,NHDES
Lead	VELAP,WVDEP,NHDES
Nickel	VELAP,WVDEP
Selenium	VELAP,WVDEP,NHDES
Silver	VELAP,WVDEP,NHDES
Thallium	VELAP,WVDEP,NHDES
Tin	VELAP,WVDEP
Vanadium	VELAP,WVDEP,NHDES
Zinc	VELAP,WVDEP,NHDES
<b>SW7470A in Non-Potable Water</b>	
Mercury	VELAP,NCDEQ,WVDEP,NHDES
<b>SW8011 in Non-Potable Water</b>	
1,2-Dibromoethane (EDB)	VELAP,NCDEQ
1,2,3-Trichloropropane	VELAP,NCDEQ
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ
<b>SW8081B in Non-Potable Water</b>	
4,4'-DDD	NCDEQ,VELAP,WVDEP,PADEP,NHDES
4,4'-DDE	NCDEQ,VELAP,WVDEP,PADEP,NHDES
4,4'-DDT	NCDEQ,VELAP,WVDEP,PADEP,NHDES

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### Certified Analyses included in this Report

Analyte	Certifications
Aldrin	NCDEQ,VELAP,WVDEP,PADEP,NHDES
alpha-BHC	NCDEQ,VELAP,WVDEP,PADEP,NHDES
alpha-Chlordane	NCDEQ,VELAP,WVDEP,PADEP,NHDES
beta-BHC	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Chlordane	NCDEQ,VELAP,WVDEP,PADEP,NHDES
delta-BHC	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Dieldrin	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endosulfan I	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endosulfan II	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endosulfan sulfate	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endrin	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endrin aldehyde	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Endrin ketone	NCDEQ,VELAP,WVDEP,PADEP,NHDES
gamma-BHC (Lindane)	NCDEQ,VELAP,WVDEP,PADEP,NHDES
gamma-Chlordane	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Heptachlor	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Heptachlor epoxide	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Methoxychlor	NCDEQ,VELAP,WVDEP,PADEP,NHDES
Toxaphene	NCDEQ,VELAP,WVDEP,PADEP,NHDES

#### **SW8082A in Non-Potable Water**

PCB as Aroclor 1016	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1221	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1232	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1242	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1248	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1254	VELAP,PADEP,NCDEQ,WVDEP,NHDES
PCB as Aroclor 1260	VELAP,PADEP,NCDEQ,WVDEP,NHDES

#### **SW8151A in Non-Potable Water**



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### Certified Analyses included in this Report

Analyte	Certifications
2,4,5-T	VELAP,PADEP,NCDEQ,WVDEP
2,4,5-TP (Silvex)	VELAP,PADEP,NCDEQ,WVDEP
2,4-D	VELAP,PADEP,NCDEQ,WVDEP
Dinoseb	VELAP,PADEP,NCDEQ,WVDEP
Pentachlorophenol	VELAP,PADEP,NCDEQ,WVDEP
<b>SW8260D in Non-Potable Water</b>	
1,1,1,2-Tetrachloroethane	NCDEQ,WVDEP,VELAP
1,1,1-Trichloroethane	NCDEQ,WVDEP,VELAP
1,1,2,2-Tetrachloroethane	NCDEQ,WVDEP,VELAP
1,1,2-Trichloroethane	NCDEQ,WVDEP,VELAP
1,1-Dichloroethane	NCDEQ,WVDEP,VELAP
1,1-Dichloroethylene	NCDEQ,WVDEP,VELAP
1,1-Dichloropropene	NCDEQ,WVDEP,VELAP
1,2,3-Trichloropropane	NCDEQ,WVDEP,VELAP
1,2,4-Trichlorobenzene	NCDEQ,WVDEP,VELAP
1,2-Dichlorobenzene	NCDEQ,WVDEP,VELAP
1,2-Dichloroethane	NCDEQ,WVDEP,VELAP
1,2-Dichloropropane	NCDEQ,WVDEP,VELAP
1,3-Dichlorobenzene	NCDEQ,WVDEP,VELAP
1,3-Dichloropropane	NCDEQ,WVDEP,VELAP
1,4-Dichlorobenzene	NCDEQ,WVDEP,VELAP
2,2-Dichloropropane	NCDEQ,WVDEP,VELAP
2-Butanone (MEK)	NCDEQ,WVDEP,VELAP
2-Hexanone (MBK)	NCDEQ,WVDEP,VELAP
4-Methyl-2-pentanone (MIBK)	NCDEQ,WVDEP,VELAP
Acetone	NCDEQ,WVDEP,VELAP
Acetonitrile	NCDEQ,WVDEP,VELAP
Acrolein	NCDEQ,WVDEP,VELAP

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Date Issued: 4/6/2022 5:59:44PM

### Certified Analyses included in this Report

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

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### Certified Analyses included in this Report

Analyte	Certifications
Propionitrile	NCDEQ, WVDEP, VELAP
Styrene	NCDEQ, WVDEP, VELAP
Tetrachloroethylene (PCE)	NCDEQ, WVDEP, VELAP
Toluene	NCDEQ, WVDEP, VELAP
trans-1,2-Dichloroethylene	NCDEQ, WVDEP, VELAP
trans-1,3-Dichloropropene	NCDEQ, WVDEP, VELAP
trans-1,4-Dichloro-2-butene	NCDEQ, WVDEP, VELAP
Trichloroethylene	NCDEQ, WVDEP, VELAP
Trichlorofluoromethane	NCDEQ, WVDEP, VELAP
Vinyl acetate	NCDEQ, WVDEP, VELAP
Vinyl chloride	NCDEQ, WVDEP, VELAP
Xylenes, Total	NCDEQ, WVDEP, VELAP

### *SW8270E in Non-Potable Water*

1,2,4,5-Tetrachlorobenzene	VELAP, NCDEQ, WVDEP
1,3,5-Trinitrobenzene	VELAP, NCDEQ, WVDEP
1,3-Dinitrobenzene	VELAP, NCDEQ, WVDEP
1,4-Naphthoquinone	VELAP, NCDEQ, WVDEP
1-Naphthylamine	VELAP, NCDEQ, WVDEP
2,3,4,6-Tetrachlorophenol	VELAP, NCDEQ, WVDEP
2,4,5-Trichlorophenol	VELAP, NCDEQ, WVDEP
2,4,6-Trichlorophenol	VELAP, NCDEQ, WVDEP
2,4-Dichlorophenol	VELAP, NCDEQ, WVDEP
2,4-Dimethylphenol	VELAP, NCDEQ, WVDEP
2,4-Dinitrophenol	VELAP, NCDEQ, WVDEP
2,4-Dinitrotoluene	VELAP, NCDEQ, WVDEP
2,6-Dichlorophenol	VELAP, NCDEQ, WVDEP
2,6-Dinitrotoluene	VELAP, NCDEQ, WVDEP
2-Acetylaminofluorene	VELAP, NCDEQ, WVDEP

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### Certified Analyses included in this Report

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

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

### Certified Analyses included in this Report

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

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

### Certified Analyses included in this Report

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



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

### Certified Analyses included in this Report

Analyte	Certifications
Phenacetin	VELAP,NCDEQ,WVDEP
Phenanthrene	VELAP,NCDEQ,WVDEP
Phenol	VELAP,NCDEQ,WVDEP
Phorate	VELAP,NCDEQ,WVDEP
p-Phenylenediamine	VELAP,NCDEQ,WVDEP
Pronamide	VELAP,NCDEQ,WVDEP
Pyrene	VELAP,NCDEQ,WVDEP
Safrole	VELAP,NCDEQ,WVDEP
<b>SW9012B in Non-Potable Water</b>	
Cyanide	VELAP,WVDEP
<b>SW9215 in Non-Potable Water</b>	
Sulfide	VELAP

Code	Description	Laboratory ID	Expires
MADEP	Massachusetts DEP	M-VA913	06/30/2022
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NC	North Carolina DENR	495	07/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NCDOH	North Carolina Department of Health	51714	07/31/2022
NJDEP	NELAP-New Jersey DEP	VA015	06/30/2022
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #11739	460021	06/14/2022

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Compliance Wells  
Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

### 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.
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**

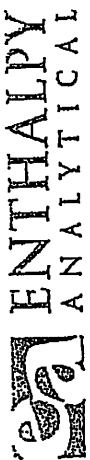
COMPANY NAME: WSP Golder INVOICE TO: Culpeper County PROJECT NAME/Quote #: \_\_\_\_\_  
 CONTACT: Michael Clay INVOICE CONTACT: P. Howard SITE NAME: Laurel Valley Compliance wells  
 ADDRESS: 2108 W. Laburnum Ave St. 200 INVOICE ADDRESS: \_\_\_\_\_ PROJECT NUMBER: \_\_\_\_\_  
 PHONE #: (804) 934-1782 INVOICE PHONE #: \_\_\_\_\_ P.O. #: \_\_\_\_\_  
 FAX #: \_\_\_\_\_ EMAIL: Michael.Clay@wsp.com Pretreatment Program: \_\_\_\_\_  
 Is sample for compliance reporting? YES  NO  Regulatory State: VA Is sample from a chlorinated supply? YES  NO  PWS I.D. #: \_\_\_\_\_  
 SAMPLER NAME (PRINT): D. Thomas SAMPLER SIGNATURE: [Signature] Turn Around Time: Circle 10 5 Days or Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/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
											Cobalt	Arsenic	VSWMR Table 3.1	Column B (VOC's)	
1) MW-1B	X					3/28/22	1315		GW 12	X	X	X	X	All Samples Preserved in ice	
2) MW-2B	X					3/28/22	1500		GW 12	X	X	X	X	Level #1 Data Package	
3) MW-3A	X					3/29/22	0920		GW 12	X	X	X	X	2014572121	
4) MW-4	X					3/29/22	1145		GW 12	X	X	X	X		
5) MW-2D	X					3/30/22	1040		GW 12	X	X	X	X		
6) Field Blank	X					3/29/22	1145		GW 12	X	X	X	X		
7) Trip Blank	X									X					
8)															
9)															
10)															

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

LAB USE ONLY Therm ID: L12 COOLER TEMP 0.5 °C  
 Custody Seals used and intact? (Y/N) \_\_\_\_\_  
 QC Data Package Level III  Level IV   
 RECEIVED: [Signature] MM 3/30/22 1020  
 RECEIVED: \_\_\_\_\_  
 RECEIVED: \_\_\_\_\_  
**GA** **22C1547**  
**Laurel Valley Compliance Wells**  
**Recd: 03/30/2022 Due: 04/06/2022**



# Sample Preservation Log

*NMS*

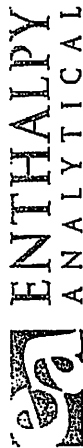
Order ID: 22C1547 Date Performed: 4/1/22 Analyst Performing Check: \_\_\_\_\_

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (5081/508/508) PCB DW only		SVOC (22827/625)		CrVI **		Pest/PCB (508) / SVOC(525)		PH as Received		PH as Received	
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH
01A																													
01E																													
01G																													
01H																													
01I																													
02A																													
02E																													
02G																													
02H																													
02I																													
03A																													
03E																													
03G																													
03H																													
03I																													

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HGL ID: \_\_\_\_\_ Na2SO3 ID: \_\_\_\_\_ 6N NaOH: \_\_\_\_\_  
 Na2SO3 ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_

CVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7

\*\*WV: only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.



# Sample Preservation Log

Order ID: 22C1547

Date Performed: 4/1/22

Analyst Performing Check: MMUS

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/8087/808) PCB DW only		SVOC (5282/70/529)		CrVI * **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH			
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -
04	A																														
04	E																														
04	G																														
04	H																														
04	I																														
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05	E																														
05	G																														
05	H																														
05	I																														
06	A																														
06	E																														
06	G																														
06	H																														
06	I																														

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH ID: \_\_\_\_\_

CRVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 5.3 - 8.7

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Compliance Wells  
Submitted To: Michele Clary

Date Issued: 4/6/2022 5:59:44PM

## Sample Conditions Checklist

Samples Received at:	0.50°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?	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 collection date and time (03.23.22 1134, 03.23.33 1400) per bottle labels.  
MRS 04.01.22 09.22





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

### Certificate of Analysis

Final Report

Sample Delivery Group ID 211022LaurelValley

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Issued: 11/4/2022 5:36:19PM

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Compliance Wells

Purchase Order:

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group 211022LaurelValley . Work orders included in the sample delivery group:

<u>Work Order</u>	<u>Receive Date</u>	<u>Project Number</u>
22J1082	10/20/2022 5:18:00PM	2014572921.100
22J1391	10/28/2022 10:07:00AM	2014572921.100

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 Enthalpy Analytical.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Laboratory Sample ID: 22J1082-01      Client Sample ID: MW-1B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	01	SW6020B	151		1.00	5.00	1	ug/L
Cadmium	01	SW6020B	0.513	J	0.100	1.00	1	ug/L
Chromium	01	SW6020B	0.413	J	0.400	1.00	1	ug/L
Cobalt	01	SW6020B	19.0		0.200	1.00	1	ug/L
Copper	01	SW6020B	0.788	J	0.300	1.00	1	ug/L
Nickel	01	SW6020B	6.366		1.000	1.000	1	ug/L
Zinc	01	SW6020B	3.76	J	2.50	5.00	1	ug/L
1,1-Dichloroethane	01	SW8260D	6.82		0.60	1.00	1	ug/L
1,2-Dichloropropane	01	SW8260D	0.45	J	0.40	1.00	1	ug/L
1,4-Dichlorobenzene	01	SW8260D	4.75		0.40	1.00	1	ug/L
Benzene	01	SW8260D	1.43		0.40	1.00	1	ug/L
Chlorobenzene	01	SW8260D	2.92		0.40	1.00	1	ug/L
Chloroethane	01	SW8260D	1.70		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	01	SW8260D	6.92		0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260D	1.82		0.50	0.50	1	ug/L

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Laboratory Sample ID: 22J1082-02                      Client Sample ID: MW-2B

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	02RE1	SW6020B	299		10.0	50.0	10	ug/L
Cobalt	02	SW6020B	17.1		0.200	1.00	1	ug/L
Nickel	02	SW6020B	81.73		1.000	1.000	1	ug/L
1,1-Dichloroethane	02	SW8260D	3.62		0.60	1.00	1	ug/L
1,2-Dichlorobenzene	02	SW8260D	1.05		0.40	1.00	1	ug/L
1,4-Dichlorobenzene	02	SW8260D	13.1		0.40	1.00	1	ug/L
Benzene	02	SW8260D	1.80		0.40	1.00	1	ug/L
Chlorobenzene	02	SW8260D	14.5		0.40	1.00	1	ug/L
Chloroethane	02	SW8260D	0.97	J	0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	02	SW8260D	4.91		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 Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Laboratory Sample ID: 22J1082-03      Client Sample ID: MW-3A

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	03RE1	SW6020B	518		10.0	50.0	10	ug/L
Beryllium	03	SW6020B	0.434	J	0.200	1.00	1	ug/L
Cadmium	03	SW6020B	2.44		0.100	1.00	1	ug/L
Chromium	03	SW6020B	2.48		0.400	1.00	1	ug/L
Cobalt	03	SW6020B	52.1		0.200	1.00	1	ug/L
Copper	03	SW6020B	6.46		0.300	1.00	1	ug/L
Lead	03	SW6020B	1.3		1.0	1.0	1	ug/L
Mercury	03	SW7470A	0.00044		0.00020	0.00020	1	mg/L
Nickel	03	SW6020B	15.14		1.000	1.000	1	ug/L
Zinc	03	SW6020B	16.8		2.50	5.00	1	ug/L
1,4-Dichlorobenzene	03	SW8260D	2.10		0.40	1.00	1	ug/L
Chlorobenzene	03	SW8260D	0.83	J	0.40	1.00	1	ug/L
cis-1,2-Dichloroethylene	03	SW8260D	1.25		0.40	1.00	1	ug/L

### Analysis Detects Report

 Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

 Laboratory Sample ID: **22J1082-04**                      Client Sample ID: **MW-4**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	04	SW6020B	45.5		1.00	5.00	1	ug/L
Chromium	04	SW6020B	0.994	J	0.400	1.00	1	ug/L
Cobalt	04	SW6020B	18.2		0.200	1.00	1	ug/L
Copper	04	SW6020B	1.09		0.300	1.00	1	ug/L
Nickel	04	SW6020B	10.40		1.000	1.000	1	ug/L
Vanadium	04	SW6020B	2.71	J	2.50	5.00	1	ug/L
Zinc	04	SW6020B	3.55	J	2.50	5.00	1	ug/L
1,1-Dichloroethane	04	SW8260D	1.20		0.60	1.00	1	ug/L
1,4-Dichlorobenzene	04	SW8260D	7.54		0.40	1.00	1	ug/L
Benzene	04	SW8260D	0.97	J	0.40	1.00	1	ug/L
Chlorobenzene	04	SW8260D	7.38		0.40	1.00	1	ug/L
Chloroethane	04	SW8260D	1.16		0.70	1.00	1	ug/L
cis-1,2-Dichloroethylene	04	SW8260D	0.82	J	0.40	1.00	1	ug/L

 Laboratory Sample ID: **22J1082-05**                      Client Sample ID: **MW-20 Upgradient**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Barium	05	SW6020B	10.5		1.00	5.00	1	ug/L
Cadmium	05	SW6020B	0.124	J	0.100	1.00	1	ug/L
Chromium	05	SW6020B	0.529	J	0.400	1.00	1	ug/L
Copper	05	SW6020B	1.44		0.300	1.00	1	ug/L
Silver	05	SW6020B	0.0812	J	0.0600	1.00	1	ug/L
Zinc	05	SW6020B	9.95		2.50	5.00	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".

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1B	22J1082-01	Ground Water	10/18/2022 11:45	10/20/2022 17:18
MW-2B	22J1082-02	Ground Water	10/18/2022 13:16	10/20/2022 17:18
MW-3A	22J1082-03	Ground Water	10/19/2022 11:30	10/20/2022 17:18
MW-4	22J1082-04	Ground Water	10/19/2022 09:25	10/20/2022 17:18
MW-20 Upgradient	22J1082-05	Ground Water	10/20/2022 11:05	10/20/2022 17:18
Field Blank	22J1082-06	Ground Water	10/20/2022 13:45	10/20/2022 17:18
Trip Blank	22J1082-07	Ground Water	09/13/2022 16:15	10/20/2022 17:18
MW-1B	22J1391-01	Ground Water	10/27/2022 11:05	10/28/2022 10:07
MW-2B	22J1391-02	Ground Water	10/27/2022 11:45	10/28/2022 10:07
MW-3A	22J1391-03	Ground Water	10/27/2022 11:35	10/28/2022 10:07
MW-4	22J1391-04	Ground Water	10/27/2022 11:10	10/28/2022 10:07
MW-20	22J1391-05	Ground Water	10/27/2022 12:40	10/28/2022 10:07
Field Blank	22J1391-06	Ground Water	10/27/2022 10:20	10/28/2022 10:07



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	01	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		0.0600	1.00	1	ug/L	MAK
Arsenic	01	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		0.50	1.0	1	ug/L	MAK
<b>Barium</b>	01	7440-39-3	SW6020B	10/21/2022 17:00	10/31/2022 16:47	151		1.00	5.00	1	ug/L	MAK
Beryllium	01	7440-41-7	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		0.200	1.00	1	ug/L	MAK
<b>Cadmium</b>	01	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 16:47	0.513	J	0.100	1.00	1	ug/L	MAK
<b>Cobalt</b>	01	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 16:47	19.0		0.200	1.00	1	ug/L	MAK
<b>Chromium</b>	01	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 16:47	0.413	J	0.400	1.00	1	ug/L	MAK
<b>Copper</b>	01	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 16:47	0.788	J	0.300	1.00	1	ug/L	MAK
Mercury	01	7439-97-6	SW7470A	11/02/2022 10:15	11/02/2022 14:06	BLOD		0.00020	0.00020	1	mg/L	ACM
<b>Nickel</b>	01	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 16:47	6.366		1.000	1.000	1	ug/L	MAK
Lead	01	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		1.0	1.0	1	ug/L	MAK
Antimony	01	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	01	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		0.850	1.00	1	ug/L	MAK
Tin	01	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 16:23	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	01	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		1.0	1.0	1	ug/L	MAK
Vanadium	01	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 16:47	BLOD		2.50	5.00	1	ug/L	MAK
<b>Zinc</b>	01	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 16:47	3.76	J	2.50	5.00	1	ug/L	MAK
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	01	630-20-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	01	71-55-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	01	79-34-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	01	79-00-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.50	1.00	1	ug/L	RJB
<b>1,1-Dichloroethane</b>	01	75-34-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	6.82		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	01	75-35-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.70	1.00	1	ug/L	RJB

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,2,3-Trichloropropane	01	96-18-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	01	95-50-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	01	107-06-2	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.70	1.00	1	ug/L	RJB
<b>1,2-Dichloropropane</b>	01	78-87-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	0.45	J	0.40	1.00	1	ug/L	RJB
<b>1,4-Dichlorobenzene</b>	01	106-46-7	SW8260D	10/24/2022 17:52	10/24/2022 17:52	4.75		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	01	78-93-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	01	591-78-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	01	108-10-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	01	67-64-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	01	107-13-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		1.70	5.00	1	ug/L	RJB
<b>Benzene</b>	01	71-43-2	SW8260D	10/24/2022 17:52	10/24/2022 17:52	1.43		0.40	1.00	1	ug/L	RJB
Bromochloromethane	01	74-97-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	01	75-27-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	01	75-25-2	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	01	74-83-9	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	01	75-15-0	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	01	56-23-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.50	1.00	1	ug/L	RJB
<b>Chlorobenzene</b>	01	108-90-7	SW8260D	10/24/2022 17:52	10/24/2022 17:52	2.92		0.40	1.00	1	ug/L	RJB
<b>Chloroethane</b>	01	75-00-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	1.70		0.70	1.00	1	ug/L	RJB
Chloroform	01	67-66-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	01	74-87-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.95	1.00	1	ug/L	RJB
<b>cis-1,2-Dichloroethylene</b>	01	156-59-2	SW8260D	10/24/2022 17:52	10/24/2022 17:52	6.92		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	01	10061-01-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	01	124-48-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.35	0.50	1	ug/L	RJB

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Dibromomethane	01	74-95-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	01	75-71-8	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	01	100-41-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	01	74-88-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	01	78-83-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	01	179601-23-1	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	01	75-09-2	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	01	91-20-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	01	95-47-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	01	100-42-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	01	127-18-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	01	108-88-3	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	01	156-60-5	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	01	10061-02-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	01	110-57-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	01	79-01-6	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	01	75-69-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		0.80	1.00	1	ug/L	RJB
Vinyl acetate	01	108-05-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		2.00	10.0	1	ug/L	RJB
<b>Vinyl chloride</b>	01	75-01-4	SW8260D	10/24/2022 17:52	10/24/2022 17:52	1.82		0.50	0.50	1	ug/L	RJB
Xylenes, Total	01	1330-20-7	SW8260D	10/24/2022 17:52	10/24/2022 17:52	BLOD		1.00	3.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	01	95.7 %	70-120	10/24/2022 17:52	10/24/2022 17:52							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	01	101 %	75-120	10/24/2022 17:52	10/24/2022 17:52							
<i>Surr: Dibromofluoromethane (Surr)</i>	01	96.6 %	70-130	10/24/2022 17:52	10/24/2022 17:52							
<i>Surr: Toluene-d8 (Surr)</i>	01	99.2 %	70-130	10/24/2022 17:52	10/24/2022 17:52							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	01	92-67-1	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		2.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	01	117-81-7	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		5.00	5.00	1	ug/L	MGG
Dibenz (a,h) anthracene	01	53-70-3	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		5.00	10.0	1	ug/L	MGG
Diethyl phthalate	01	84-66-2	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		3.00	10.0	1	ug/L	MGG
Di-n-butyl phthalate	01	84-74-2	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		4.00	10.0	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	01	193-39-5	SW8270E	10/24/2022 09:20	10/24/2022 22:36	BLOD		3.00	10.0	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	01	92.9 %	10-86	10/24/2022 09:20	10/24/2022 22:36							S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	01	64.7 %	9-87	10/24/2022 09:20	10/24/2022 22:36							
<i>Surr: 2-Fluorophenol (Surr)</i>	01	25.5 %	10-52	10/24/2022 09:20	10/24/2022 22:36							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	01	56.9 %	10-98.5	10/24/2022 09:20	10/24/2022 22:36							
<i>Surr: Phenol-d5 (Surr)</i>	01	22.2 %	5-33	10/24/2022 09:20	10/24/2022 22:36							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	01	65.7 %	27-133	10/24/2022 09:20	10/24/2022 22:36							

## Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: **MW-1B**

Laboratory Sample ID: **22J1082-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	01	1031-07-8	SW8081B	10/24/2022 14:15	10/26/2022 18:55	BLOD		0.005	0.051	1	ug/L	LBH2
gamma-Chlordane	01	5103-74-2	SW8081B	10/24/2022 14:15	10/26/2022 18:55	BLOD		0.005	0.051	1	ug/L	LBH2
Surr: TCMX	01	84.1 %	18-112	10/24/2022 14:15	10/26/2022 18:55							
Surr: DCB	01	93.0 %	27-131	10/24/2022 14:15	10/26/2022 18:55							

## Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	01	106-93-4	SW8011	10/31/2022 10:55	11/01/2022 23:17	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	01	96-18-4	SW8011	10/31/2022 10:55	11/01/2022 23:17	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	01	96-12-8	SW8011	10/31/2022 10:55	11/01/2022 23:17	BLOD		0.005	0.010	1	ug/L	LBH2



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### Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1082-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	01	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22J1082-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	02	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.0600	1.00	1	ug/L	MAK
Arsenic	02	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.50	1.0	1	ug/L	MAK
<b>Barium</b>	02RE1	7440-39-3	SW6020B	10/21/2022 17:00	11/01/2022 13:45	299		10.0	50.0	10	ug/L	MAK
Beryllium	02	7440-41-7	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.200	1.00	1	ug/L	MAK
Cadmium	02	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.100	1.00	1	ug/L	MAK
<b>Cobalt</b>	02	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 16:50	17.1		0.200	1.00	1	ug/L	MAK
Chromium	02	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.400	1.00	1	ug/L	MAK
Copper	02	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.300	1.00	1	ug/L	MAK
Mercury	02	7439-97-6	SW7470A	11/02/2022 10:15	11/02/2022 14:08	BLOD		0.00020	0.00020	1	mg/L	ACM
<b>Nickel</b>	02	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 16:50	81.73		1.000	1.000	1	ug/L	MAK
Lead	02	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		1.0	1.0	1	ug/L	MAK
Antimony	02	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	02	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		0.850	1.00	1	ug/L	MAK
Tin	02	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 16:28	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	02	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		1.0	1.0	1	ug/L	MAK
Vanadium	02	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		2.50	5.00	1	ug/L	MAK
Zinc	02	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 16:50	BLOD		2.50	5.00	1	ug/L	MAK

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22J1082-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	02	630-20-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	02	71-55-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	02	79-34-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	02	79-00-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	1.00	1	ug/L	RJB
<b>1,1-Dichloroethane</b>	02	75-34-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	3.62		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	02	75-35-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	02	96-18-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
<b>1,2-Dichlorobenzene</b>	02	95-50-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	1.05		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	02	107-06-2	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	02	78-87-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
<b>1,4-Dichlorobenzene</b>	02	106-46-7	SW8260D	10/24/2022 18:15	10/24/2022 18:15	13.1		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	02	78-93-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	02	591-78-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	02	108-10-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	02	67-64-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	02	107-13-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		1.70	5.00	1	ug/L	RJB
<b>Benzene</b>	02	71-43-2	SW8260D	10/24/2022 18:15	10/24/2022 18:15	1.80		0.40	1.00	1	ug/L	RJB
Bromochloromethane	02	74-97-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	02	75-27-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	02	75-25-2	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	02	74-83-9	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	02	75-15-0	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	02	56-23-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	1.00	1	ug/L	RJB
<b>Chlorobenzene</b>	02	108-90-7	SW8260D	10/24/2022 18:15	10/24/2022 18:15	14.5		0.40	1.00	1	ug/L	RJB

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Client Sample ID: MW-2B

Laboratory Sample ID: 22J1082-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	02	75-00-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	0.97	J	0.70	1.00	1	ug/L	RJB
Chloroform	02	67-66-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	02	74-87-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.95	1.00	1	ug/L	RJB
cis-1,2-Dichloroethylene	02	156-59-2	SW8260D	10/24/2022 18:15	10/24/2022 18:15	4.91		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	02	10061-01-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	02	124-48-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	02	74-95-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	02	75-71-8	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	02	100-41-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	02	74-88-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	02	78-83-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	02	179601-23-1	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	02	75-09-2	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	02	91-20-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	02	95-47-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	02	100-42-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	02	127-18-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	02	108-88-3	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	02	156-60-5	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	02	10061-02-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	02	110-57-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	02	79-01-6	SW8260D	10/24/2022 18:15	10/24/2022 18:15	1.15		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	02	75-69-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.80	1.00	1	ug/L	RJB

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Laboratory Sample ID: 22J1082-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	02	108-05-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	02	75-01-4	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	02	1330-20-7	SW8260D	10/24/2022 18:15	10/24/2022 18:15	BLOD		1.00	3.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	02	97.3 %	70-120	10/24/2022 18:15	10/24/2022 18:15							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	02	100 %	75-120	10/24/2022 18:15	10/24/2022 18:15							
<i>Surr: Dibromofluoromethane (Surr)</i>	02	95.6 %	70-130	10/24/2022 18:15	10/24/2022 18:15							
<i>Surr: Toluene-d8 (Surr)</i>	02	99.3 %	70-130	10/24/2022 18:15	10/24/2022 18:15							

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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
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	02	92-67-1	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		1.96	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	02	117-81-7	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		4.90	5.00	1	ug/L	MGG
Dibenz (a,h) anthracene	02	53-70-3	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		4.90	10.0	1	ug/L	MGG
Diethyl phthalate	02	84-66-2	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		2.94	10.0	1	ug/L	MGG
Di-n-butyl phthalate	02	84-74-2	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		3.92	10.0	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	02	193-39-5	SW8270E	10/24/2022 09:20	10/24/2022 23:11	BLOD		2.94	10.0	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	02	114 %	10-86	10/24/2022 09:20	10/24/2022 23:11							S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	02	74.2 %	9-87	10/24/2022 09:20	10/24/2022 23:11							
<i>Surr: 2-Fluorophenol (Surr)</i>	02	36.3 %	10-52	10/24/2022 09:20	10/24/2022 23:11							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	02	60.5 %	10-98.5	10/24/2022 09:20	10/24/2022 23:11							
<i>Surr: Phenol-d5 (Surr)</i>	02	24.4 %	5-33	10/24/2022 09:20	10/24/2022 23:11							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	02	81.9 %	27-133	10/24/2022 09:20	10/24/2022 23:11							



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<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	02	1031-07-8	SW8081B	10/24/2022 14:15	10/26/2022 19:14	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	02	5103-74-2	SW8081B	10/24/2022 14:15	10/26/2022 19:14	BLOD		0.005	0.050	1	ug/L	LBH2
Surr: TCMX	02	123 %	18-112	10/24/2022 14:15	10/26/2022 19:14							S
Surr: DCB	02	84.4 %	27-131	10/24/2022 14:15	10/26/2022 19:14							

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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
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	02	106-93-4	SW8011	10/31/2022 10:55	11/01/2022 18:58	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	02	96-18-4	SW8011	10/31/2022 10:55	11/01/2022 18:58	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	02	96-12-8	SW8011	10/31/2022 10:55	11/01/2022 18:58	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
<b>Wet Chemistry Analysis</b>												
Sulfide	02	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

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Client Sample ID: MW-3A

Laboratory Sample ID: 22J1082-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	03	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		0.0600	1.00	1	ug/L	MAK
Arsenic	03	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		0.50	1.0	1	ug/L	MAK
Barium	03RE1	7440-39-3	SW6020B	10/21/2022 17:00	11/01/2022 13:47	518		10.0	50.0	10	ug/L	MAK
Beryllium	03	7440-41-7	SW6020B	10/21/2022 17:00	10/31/2022 16:52	0.434	J	0.200	1.00	1	ug/L	MAK
Cadmium	03	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 16:52	2.44		0.100	1.00	1	ug/L	MAK
Cobalt	03	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 16:52	52.1		0.200	1.00	1	ug/L	MAK
Chromium	03	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 16:52	2.48		0.400	1.00	1	ug/L	MAK
Copper	03	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 16:52	6.46		0.300	1.00	1	ug/L	MAK
Mercury	03	7439-97-6	SW7470A	11/02/2022 10:15	11/02/2022 14:10	0.00044		0.00020	0.00020	1	mg/L	ACM
Nickel	03	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 16:52	15.14		1.000	1.000	1	ug/L	MAK
Lead	03	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 16:52	1.3		1.0	1.0	1	ug/L	MAK
Antimony	03	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	03	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		0.850	1.00	1	ug/L	MAK
Tin	03	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 16:33	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	03	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		1.0	1.0	1	ug/L	MAK
Vanadium	03	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 16:52	BLOD		2.50	5.00	1	ug/L	MAK
Zinc	03	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 16:52	16.8		2.50	5.00	1	ug/L	MAK

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<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	03	630-20-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	03	71-55-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	03	79-34-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	03	79-00-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	1.00	1	ug/L	RJB
1,1-Dichloroethane	03	75-34-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	03	75-35-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	03	96-18-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	03	95-50-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	03	107-06-2	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	03	78-87-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
<b>1,4-Dichlorobenzene</b>	03	106-46-7	SW8260D	10/24/2022 18:38	10/24/2022 18:38	2.10		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	03	78-93-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	03	591-78-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	03	108-10-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	03	67-64-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	03	107-13-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		1.70	5.00	1	ug/L	RJB
Benzene	03	71-43-2	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Bromochloromethane	03	74-97-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	03	75-27-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	03	75-25-2	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	03	74-83-9	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	03	75-15-0	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	03	56-23-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	1.00	1	ug/L	RJB
<b>Chlorobenzene</b>	03	108-90-7	SW8260D	10/24/2022 18:38	10/24/2022 18:38	0.83	J	0.40	1.00	1	ug/L	RJB

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1082-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	03	75-00-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.70	1.00	1	ug/L	RJB
Chloroform	03	67-66-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	03	74-87-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.95	1.00	1	ug/L	RJB
<b>cis-1,2-Dichloroethylene</b>	03	156-59-2	SW8260D	10/24/2022 18:38	10/24/2022 18:38	1.25		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	03	10061-01-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	03	124-48-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	03	74-95-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	03	75-71-8	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	03	100-41-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	03	74-88-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	03	78-83-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	03	179601-23-1	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	03	75-09-2	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	03	91-20-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	03	95-47-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	03	100-42-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	03	127-18-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	03	108-88-3	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	03	156-60-5	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	03	10061-02-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	03	110-57-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	03	79-01-6	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	03	75-69-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.80	1.00	1	ug/L	RJB



### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1082-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	03	108-05-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	03	75-01-4	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	03	1330-20-7	SW8260D	10/24/2022 18:38	10/24/2022 18:38	BLOD		1.00	3.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	95.6 %	70-120	10/24/2022 18:38	10/24/2022 18:38							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	100 %	75-120	10/24/2022 18:38	10/24/2022 18:38							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	96.7 %	70-130	10/24/2022 18:38	10/24/2022 18:38							
<i>Surr: Toluene-d8 (Surr)</i>	03	99.9 %	70-130	10/24/2022 18:38	10/24/2022 18:38							

## Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1082-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	03	106-93-4	SW8011	10/31/2022 10:55	11/01/2022 23:39	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	03	96-18-4	SW8011	10/31/2022 10:55	11/01/2022 23:39	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	03	96-12-8	SW8011	10/31/2022 10:55	11/01/2022 23:39	BLOD		0.005	0.010	1	ug/L	LBH2

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Client Sample ID: MW-3A

Laboratory Sample ID: 22J1082-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	03	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	04	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		0.0600	1.00	1	ug/L	MAK
Arsenic	04	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		0.50	1.0	1	ug/L	MAK
<b>Barium</b>	04	7440-39-3	SW6020B	10/21/2022 17:00	10/31/2022 17:03	45.5		1.00	5.00	1	ug/L	MAK
Beryllium	04RE1	7440-41-7	SW6020B	10/21/2022 17:00	11/01/2022 15:40	BLOD		0.200	1.00	1	ug/L	MAK
Cadmium	04	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		0.100	1.00	1	ug/L	MAK
<b>Cobalt</b>	04	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 17:03	18.2		0.200	1.00	1	ug/L	MAK
<b>Chromium</b>	04	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 17:03	0.994	J	0.400	1.00	1	ug/L	MAK
<b>Copper</b>	04	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 17:03	1.09		0.300	1.00	1	ug/L	MAK
<b>Nickel</b>	04	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 17:03	10.40		1.000	1.000	1	ug/L	MAK
Lead	04	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		1.0	1.0	1	ug/L	MAK
Antimony	04	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	04	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		0.850	1.00	1	ug/L	MAK
Tin	04	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 16:37	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	04	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 17:03	BLOD		1.0	1.0	1	ug/L	MAK
<b>Vanadium</b>	04	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 17:03	2.71	J	2.50	5.00	1	ug/L	MAK
<b>Zinc</b>	04	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 17:03	3.55	J	2.50	5.00	1	ug/L	MAK

## Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	04	630-20-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	04	71-55-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	04	79-34-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	04	79-00-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	1.00	1	ug/L	RJB
<b>1,1-Dichloroethane</b>	04	75-34-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	1.20		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	04	75-35-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	04	96-18-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	04	95-50-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	04	107-06-2	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	04	78-87-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
<b>1,4-Dichlorobenzene</b>	04	106-46-7	SW8260D	10/24/2022 19:02	10/24/2022 19:02	7.54		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	04	78-93-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	04	591-78-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	04	108-10-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	04	67-64-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	04	107-13-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		1.70	5.00	1	ug/L	RJB
<b>Benzene</b>	04	71-43-2	SW8260D	10/24/2022 19:02	10/24/2022 19:02	0.97	J	0.40	1.00	1	ug/L	RJB
Bromochloromethane	04	74-97-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	04	75-27-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	04	75-25-2	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	04	74-83-9	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	04	75-15-0	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	04	56-23-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	1.00	1	ug/L	RJB
<b>Chlorobenzene</b>	04	108-90-7	SW8260D	10/24/2022 19:02	10/24/2022 19:02	7.38		0.40	1.00	1	ug/L	RJB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	04	75-00-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	1.16		0.70	1.00	1	ug/L	RJB
Chloroform	04	67-66-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	04	74-87-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.95	1.00	1	ug/L	RJB
cis-1,2-Dichloroethylene	04	156-59-2	SW8260D	10/24/2022 19:02	10/24/2022 19:02	0.82	J	0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	04	10061-01-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	04	124-48-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	04	74-95-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	04	75-71-8	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	04	100-41-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	04	74-88-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	04	78-83-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	04	179601-23-1	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	04	75-09-2	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	04	91-20-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	04	95-47-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	04	100-42-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	04	127-18-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	04	108-88-3	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	04	156-60-5	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	04	10061-02-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	04	110-57-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	04	79-01-6	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	04	75-69-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.80	1.00	1	ug/L	RJB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	04	108-05-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	04	75-01-4	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	04	1330-20-7	SW8260D	10/24/2022 19:02	10/24/2022 19:02	BLOD		1.00	3.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	96.1 %	70-120	10/24/2022 19:02	10/24/2022 19:02							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	101 %	75-120	10/24/2022 19:02	10/24/2022 19:02							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	97.6 %	70-130	10/24/2022 19:02	10/24/2022 19:02							
<i>Surr: Toluene-d8 (Surr)</i>	04	99.8 %	70-130	10/24/2022 19:02	10/24/2022 19:02							



## Certificate of Analysis

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	04	92-67-1	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		2.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	04	117-81-7	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		5.00	5.00	1	ug/L	MGG
Dibenz (a,h) anthracene	04	53-70-3	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		5.00	10.0	1	ug/L	MGG
Diethyl phthalate	04	84-66-2	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		3.00	10.0	1	ug/L	MGG
Di-n-butyl phthalate	04	84-74-2	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		4.00	10.0	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	04	193-39-5	SW8270E	10/24/2022 09:20	10/24/2022 23:45	BLOD		3.00	10.0	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	04	61.8 %	10-86	10/24/2022 09:20	10/24/2022 23:45							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	04	42.4 %	9-87	10/24/2022 09:20	10/24/2022 23:45							
<i>Surr: 2-Fluorophenol (Surr)</i>	04	20.9 %	10-52	10/24/2022 09:20	10/24/2022 23:45							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	04	37.4 %	10-98.5	10/24/2022 09:20	10/24/2022 23:45							
<i>Surr: Phenol-d5 (Surr)</i>	04	15.5 %	5-33	10/24/2022 09:20	10/24/2022 23:45							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	04	76.0 %	27-133	10/24/2022 09:20	10/24/2022 23:45							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	04	1031-07-8	SW8081B	10/24/2022 14:15	10/26/2022 19:32	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	04	5103-74-2	SW8081B	10/24/2022 14:15	10/26/2022 19:32	BLOD		0.005	0.050	1	ug/L	LBH2
Surr: TCMX	04	91.0 %	18-112	10/24/2022 14:15	10/26/2022 19:32							
Surr: DCB	04	81.9 %	27-131	10/24/2022 14:15	10/26/2022 19:32							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	04	106-93-4	SW8011	10/31/2022 10:55	11/02/2022 00:00	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	04	96-18-4	SW8011	10/31/2022 10:55	11/02/2022 00:00	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	04	96-12-8	SW8011	10/31/2022 10:55	11/02/2022 00:00	BLOD		0.005	0.010	1	ug/L	LBH2

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1082-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	04	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

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Client Name: Golder Associates, Inc.  
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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	05	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 17:05	0.0812	J	0.0600	1.00	1	ug/L	MAK
Arsenic	05	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		0.50	1.0	1	ug/L	MAK
Barium	05	7440-39-3	SW6020B	10/21/2022 17:00	10/31/2022 17:05	10.5		1.00	5.00	1	ug/L	MAK
Beryllium	05RE1	7440-41-7	SW6020B	10/21/2022 17:00	11/01/2022 15:43	BLOD		0.200	1.00	1	ug/L	MAK
Cadmium	05	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 17:05	0.124	J	0.100	1.00	1	ug/L	MAK
Cobalt	05	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		0.200	1.00	1	ug/L	MAK
Chromium	05	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 17:05	0.529	J	0.400	1.00	1	ug/L	MAK
Copper	05	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 17:05	1.44		0.300	1.00	1	ug/L	MAK
Mercury	05	7439-97-6	SW7470A	11/02/2022 10:15	11/02/2022 14:12	BLOD		0.00020	0.00020	1	mg/L	ACM
Nickel	05	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		1.000	1.000	1	ug/L	MAK
Lead	05	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		1.0	1.0	1	ug/L	MAK
Antimony	05	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	05	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		0.850	1.00	1	ug/L	MAK
Tin	05	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 16:42	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	05	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		1.0	1.0	1	ug/L	MAK
Vanadium	05	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 17:05	BLOD		2.50	5.00	1	ug/L	MAK
Zinc	05	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 17:05	9.95		2.50	5.00	1	ug/L	MAK

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	05	630-20-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	05	71-55-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	05	79-34-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	05	79-00-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	1.00	1	ug/L	RJB
1,1-Dichloroethane	05	75-34-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	05	75-35-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	05	96-18-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	05	95-50-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	05	107-06-2	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	05	78-87-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
1,4-Dichlorobenzene	05	106-46-7	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	05	78-93-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	05	591-78-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	05	108-10-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	05	67-64-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	05	107-13-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		1.70	5.00	1	ug/L	RJB
Benzene	05	71-43-2	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Bromochloromethane	05	74-97-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	05	75-27-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	05	75-25-2	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	05	74-83-9	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	05	75-15-0	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	05	56-23-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	1.00	1	ug/L	RJB
Chlorobenzene	05	108-90-7	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	05	75-00-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.70	1.00	1	ug/L	RJB
Chloroform	05	67-66-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	05	74-87-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.95	1.00	1	ug/L	RJB
cis-1,2-Dichloroethylene	05	156-59-2	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	05	10061-01-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	05	124-48-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	05	74-95-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	05	75-71-8	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	05	100-41-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	05	74-88-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	05	78-83-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	05	179601-23-1	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	05	75-09-2	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	05	91-20-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	05	95-47-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	05	100-42-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	05	127-18-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	05	108-88-3	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	05	156-60-5	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	05	10061-02-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	05	110-57-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	05	79-01-6	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	05	75-69-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.80	1.00	1	ug/L	RJB



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	05	108-05-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	05	75-01-4	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	05	1330-20-7	SW8260D	10/24/2022 19:25	10/24/2022 19:25	BLOD		1.00	3.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>05</i>	<i>99.7 %</i>	<i>70-120</i>	<i>10/24/2022 19:25</i>	<i>10/24/2022 19:25</i>							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>05</i>	<i>100 %</i>	<i>75-120</i>	<i>10/24/2022 19:25</i>	<i>10/24/2022 19:25</i>							
<i>Surr: Dibromofluoromethane (Surr)</i>	<i>05</i>	<i>98.1 %</i>	<i>70-130</i>	<i>10/24/2022 19:25</i>	<i>10/24/2022 19:25</i>							
<i>Surr: Toluene-d8 (Surr)</i>	<i>05</i>	<i>99.8 %</i>	<i>70-130</i>	<i>10/24/2022 19:25</i>	<i>10/24/2022 19:25</i>							

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	05	92-67-1	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		2.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	05	117-81-7	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		5.00	5.00	1	ug/L	MGG
Dibenz (a,h) anthracene	05	53-70-3	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		5.00	10.0	1	ug/L	MGG
Diethyl phthalate	05	84-66-2	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		3.00	10.0	1	ug/L	MGG
Di-n-butyl phthalate	05	84-74-2	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		4.00	10.0	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	05	193-39-5	SW8270E	10/27/2022 09:15	10/27/2022 18:38	BLOD		3.00	10.0	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	05	53.4 %	10-86	10/27/2022 09:15	10/27/2022 18:38							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	05	46.0 %	9-87	10/27/2022 09:15	10/27/2022 18:38							
<i>Surr: 2-Fluorophenol (Surr)</i>	05	22.8 %	10-52	10/27/2022 09:15	10/27/2022 18:38							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	05	39.4 %	10-98.5	10/27/2022 09:15	10/27/2022 18:38							
<i>Surr: Phenol-d5 (Surr)</i>	05	17.1 %	5-33	10/27/2022 09:15	10/27/2022 18:38							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	05	55.3 %	27-133	10/27/2022 09:15	10/27/2022 18:38							

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	05	1031-07-8	SW8081B	10/24/2022 14:15	10/26/2022 19:51	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	05	5103-74-2	SW8081B	10/24/2022 14:15	10/26/2022 19:51	BLOD		0.005	0.050	1	ug/L	LBH2
Surr: TCMX	05	64.7 %	18-112	10/24/2022 14:15	10/26/2022 19:51							
Surr: DCB	05	43.1 %	27-131	10/24/2022 14:15	10/26/2022 19:51							

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Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	05	106-93-4	SW8011	10/31/2022 10:55	11/02/2022 00:22	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	05	96-18-4	SW8011	10/31/2022 10:55	11/02/2022 00:22	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	05	96-12-8	SW8011	10/31/2022 10:55	11/02/2022 00:22	BLOD		0.005	0.010	1	ug/L	LBH2

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20 Upgradient

Laboratory Sample ID: 22J1082-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	05	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Silver	06	7440-22-4	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.0600	1.00	1	ug/L	MAK
Arsenic	06	7440-38-2	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.50	1.0	1	ug/L	MAK
Barium	06	7440-39-3	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		1.00	5.00	1	ug/L	MAK
Beryllium	06RE1	7440-41-7	SW6020B	10/21/2022 17:00	11/01/2022 15:51	BLOD		0.200	1.00	1	ug/L	MAK
Cadmium	06	7440-43-9	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.100	1.00	1	ug/L	MAK
Cobalt	06	7440-48-4	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.200	1.00	1	ug/L	MAK
Chromium	06	7440-47-3	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.400	1.00	1	ug/L	MAK
Copper	06	7440-50-8	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.300	1.00	1	ug/L	MAK
Mercury	06	7439-97-6	SW7470A	11/02/2022 10:15	11/02/2022 14:57	BLOD		0.00020	0.00020	1	mg/L	ACM
Nickel	06	7440-02-0	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		1.000	1.000	1	ug/L	MAK
Lead	06	7439-92-1	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		1.0	1.0	1	ug/L	MAK
Antimony	06	7440-36-0	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		1.0	1.0	1	ug/L	MAK
Selenium	06	7782-49-2	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		0.850	1.00	1	ug/L	MAK
Tin	06	7440-31-5	SW6010D	10/21/2022 17:00	10/24/2022 17:13	BLOD		0.0200	0.0200	1	mg/L	AB
Thallium	06	7440-28-0	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		1.0	1.0	1	ug/L	MAK
Vanadium	06	7440-62-2	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		2.50	5.00	1	ug/L	MAK
Zinc	06	7440-66-6	SW6020B	10/21/2022 17:00	10/31/2022 17:13	BLOD		2.50	5.00	1	ug/L	MAK

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	06	630-20-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	06	71-55-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	06	79-34-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	06	79-00-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	1.00	1	ug/L	RJB
1,1-Dichloroethane	06	75-34-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	06	75-35-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	06	96-18-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	06	95-50-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	06	107-06-2	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	06	78-87-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
1,4-Dichlorobenzene	06	106-46-7	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	06	78-93-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	06	591-78-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	06	108-10-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	06	67-64-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	06	107-13-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		1.70	5.00	1	ug/L	RJB
Benzene	06	71-43-2	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Bromochloromethane	06	74-97-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	06	75-27-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	06	75-25-2	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	06	74-83-9	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	06	75-15-0	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	06	56-23-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	1.00	1	ug/L	RJB
Chlorobenzene	06	108-90-7	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB



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Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	06	75-00-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.70	1.00	1	ug/L	RJB
Chloroform	06	67-66-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	06	74-87-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.95	1.00	1	ug/L	RJB
cis-1,2-Dichloroethylene	06	156-59-2	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	06	10061-01-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	06	124-48-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	06	74-95-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	06	75-71-8	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	06	100-41-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	06	74-88-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	06	78-83-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	06	179601-23-1	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	06	75-09-2	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	06	91-20-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	06	95-47-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	06	100-42-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	06	127-18-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	06	108-88-3	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	06	156-60-5	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	06	10061-02-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	06	110-57-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	06	79-01-6	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	06	75-69-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.80	1.00	1	ug/L	RJB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	06	108-05-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	06	75-01-4	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	06	1330-20-7	SW8260D	10/24/2022 19:48	10/24/2022 19:48	BLOD		1.00	3.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	06	97.1 %	70-120	10/24/2022 19:48	10/24/2022 19:48							
Surr: 4-Bromofluorobenzene (Surr)	06	100 %	75-120	10/24/2022 19:48	10/24/2022 19:48							
Surr: Dibromofluoromethane (Surr)	06	97.2 %	70-130	10/24/2022 19:48	10/24/2022 19:48							
Surr: Toluene-d8 (Surr)	06	100 %	70-130	10/24/2022 19:48	10/24/2022 19:48							

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Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	06	92-67-1	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		2.00	10.0	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	06	117-81-7	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		5.00	5.00	1	ug/L	MGG
Dibenz (a,h) anthracene	06	53-70-3	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		5.00	10.0	1	ug/L	MGG
Diethyl phthalate	06	84-66-2	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		3.00	10.0	1	ug/L	MGG
Di-n-butyl phthalate	06	84-74-2	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		4.00	10.0	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	06	193-39-5	SW8270E	10/24/2022 09:20	10/25/2022 00:20	BLOD		3.00	10.0	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	06	67.9 %	10-86	10/24/2022 09:20	10/25/2022 00:20							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	06	40.4 %	9-87	10/24/2022 09:20	10/25/2022 00:20							
<i>Surr: 2-Fluorophenol (Surr)</i>	06	16.2 %	10-52	10/24/2022 09:20	10/25/2022 00:20							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	06	37.0 %	10-98.5	10/24/2022 09:20	10/25/2022 00:20							
<i>Surr: Phenol-d5 (Surr)</i>	06	14.2 %	5-33	10/24/2022 09:20	10/25/2022 00:20							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	06	75.7 %	27-133	10/24/2022 09:20	10/25/2022 00:20							

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Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	06	1031-07-8	SW8081B	10/24/2022 14:15	10/26/2022 20:46	BLOD		0.005	0.050	1	ug/L	LBH2
gamma-Chlordane	06	5103-74-2	SW8081B	10/24/2022 14:15	10/26/2022 20:46	BLOD		0.005	0.050	1	ug/L	LBH2
Surr: TCMX	06	74.9 %	18-112	10/24/2022 14:15	10/26/2022 20:46							
Surr: DCB	06	78.7 %	27-131	10/24/2022 14:15	10/26/2022 20:46							

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Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	06	106-93-4	SW8011	10/31/2022 10:55	11/02/2022 01:26	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	06	96-18-4	SW8011	10/31/2022 10:55	11/02/2022 01:26	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	06	96-12-8	SW8011	10/31/2022 10:55	11/02/2022 01:26	BLOD		0.005	0.010	1	ug/L	LBH2

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22J1082-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	06	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1082-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1,1,2-Tetrachloroethane	07	630-20-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	0.40	1	ug/L	RJB
1,1,1-Trichloroethane	07	71-55-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.60	1.00	1	ug/L	RJB
1,1,2,2-Tetrachloroethane	07	79-34-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.30	0.40	1	ug/L	RJB
1,1,2-Trichloroethane	07	79-00-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	1.00	1	ug/L	RJB
1,1-Dichloroethane	07	75-34-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.60	1.00	1	ug/L	RJB
1,1-Dichloroethylene	07	75-35-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.70	1.00	1	ug/L	RJB
1,2,3-Trichloropropane	07	96-18-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichlorobenzene	07	95-50-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
1,2-Dichloroethane	07	107-06-2	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.70	1.00	1	ug/L	RJB
1,2-Dichloropropane	07	78-87-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
1,4-Dichlorobenzene	07	106-46-7	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
2-Butanone (MEK)	07	78-93-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		3.00	10.0	1	ug/L	RJB
2-Hexanone (MBK)	07	591-78-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		2.20	5.00	1	ug/L	RJB
4-Methyl-2-pentanone (MIBK)	07	108-10-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		1.50	5.00	1	ug/L	RJB
Acetone	07	67-64-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		7.00	10.0	1	ug/L	RJB
Acrylonitrile	07	107-13-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		1.70	5.00	1	ug/L	RJB
Benzene	07	71-43-2	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Bromochloromethane	07	74-97-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	1.00	1	ug/L	RJB
Bromodichloromethane	07	75-27-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	0.50	1	ug/L	RJB
Bromoform	07	75-25-2	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Bromomethane	07	74-83-9	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.80	1.00	1	ug/L	RJB
Carbon disulfide	07	75-15-0	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		5.00	10.0	1	ug/L	RJB
Carbon tetrachloride	07	56-23-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	1.00	1	ug/L	RJB
Chlorobenzene	07	108-90-7	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1082-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Chloroethane	07	75-00-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.70	1.00	1	ug/L	RJB
Chloroform	07	67-66-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	0.50	1	ug/L	RJB
Chloromethane	07	74-87-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.95	1.00	1	ug/L	RJB
cis-1,2-Dichloroethylene	07	156-59-2	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
cis-1,3-Dichloropropene	07	10061-01-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.30	1.00	1	ug/L	RJB
Dibromochloromethane	07	124-48-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.35	0.50	1	ug/L	RJB
Dibromomethane	07	74-95-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Dichlorodifluoromethane	07	75-71-8	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.95	1.00	1	ug/L	RJB
Ethylbenzene	07	100-41-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Iodomethane	07	74-88-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD	C	6.00	10.0	1	ug/L	RJB
Isobutyl Alcohol	07	78-83-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		25.0	40.0	1	ug/L	RJB
m+p-Xylenes	07	179601-23-1	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.60	2.00	1	ug/L	RJB
Methylene chloride	07	75-09-2	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		4.00	4.00	1	ug/L	RJB
Naphthalene	07	91-20-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.80	1.00	1	ug/L	RJB
o-Xylene	07	95-47-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Styrene	07	100-42-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Tetrachloroethylene (PCE)	07	127-18-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Toluene	07	108-88-3	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	1.00	1	ug/L	RJB
trans-1,2-Dichloroethylene	07	156-60-5	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.60	1.00	1	ug/L	RJB
trans-1,3-Dichloropropene	07	10061-02-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.30	1.00	1	ug/L	RJB
trans-1,4-Dichloro-2-butene	07	110-57-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		1.00	4.00	1	ug/L	RJB
Trichloroethylene	07	79-01-6	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.40	1.00	1	ug/L	RJB
Trichlorofluoromethane	07	75-69-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.80	1.00	1	ug/L	RJB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1082-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
Vinyl acetate	07	108-05-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		2.00	10.0	1	ug/L	RJB
Vinyl chloride	07	75-01-4	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		0.50	0.50	1	ug/L	RJB
Xylenes, Total	07	1330-20-7	SW8260D	10/24/2022 13:37	10/24/2022 13:37	BLOD		1.00	3.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	97.0 %	70-120	10/24/2022 13:37	10/24/2022 13:37							
Surr: 4-Bromofluorobenzene (Surr)	07	101 %	75-120	10/24/2022 13:37	10/24/2022 13:37							
Surr: Dibromofluoromethane (Surr)	07	94.3 %	70-130	10/24/2022 13:37	10/24/2022 13:37							
Surr: Toluene-d8 (Surr)	07	98.9 %	70-130	10/24/2022 13:37	10/24/2022 13:37							

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Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1082-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Micro-extractables by GC/ECD</b>												
1,2-Dibromoethane (EDB)	07	106-93-4	SW8011	10/31/2022 10:55	11/02/2022 01:48	BLOD		0.008	0.010	1	ug/L	LBH2
1,2,3-Trichloropropane	07	96-18-4	SW8011	10/31/2022 10:55	11/02/2022 01:48	BLOD		0.009	0.010	1	ug/L	LBH2
1,2-Dibromo-3-chloropropane (DBCP)	07	96-12-8	SW8011	10/31/2022 10:55	11/02/2022 01:48	BLOD		0.005	0.010	1	ug/L	LBH2

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-1B

Laboratory Sample ID: 22J1391-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	01	93-76-5	SW8151A	10/31/2022 12:30	11/03/2022 11:59	BLOD		0.200	0.500	1	ug/L	LBH2
Surr: DCAA (Surr)	01	95.6 %	48.5-134	10/31/2022 12:30	11/03/2022 11:59							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-2B

Laboratory Sample ID: 22J1391-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	02	93-76-5	SW8151A	10/31/2022 12:30	11/03/2022 12:25	BLOD		0.200	0.500	1	ug/L	LBH2
Surr: DCAA (Surr)	02	89.0 %	48.5-134	10/31/2022 12:30	11/03/2022 12:25							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1391-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Semivolatile Organic Compounds by GCMS</b>												
4-Aminobiphenyl	03	92-67-1	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD		2.17	10.9	1	ug/L	MGG
bis (2-Ethylhexyl) phthalate	03	117-81-7	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD		5.43	5.43	1	ug/L	MGG
Dibenz (a,h) anthracene	03	53-70-3	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD	C	5.43	10.9	1	ug/L	MGG
Diethyl phthalate	03	84-66-2	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD		3.26	10.9	1	ug/L	MGG
Di-n-butyl phthalate	03	84-74-2	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD		4.35	10.9	1	ug/L	MGG
Indeno (1,2,3-cd) pyrene	03	193-39-5	SW8270E	11/02/2022 09:00	11/03/2022 00:09	BLOD	C	3.26	10.9	1	ug/L	MGG
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	03	68.5 %	10-86	11/02/2022 09:00	11/03/2022 00:09							
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	03	32.7 %	9-87	11/02/2022 09:00	11/03/2022 00:09							
<i>Surr: 2-Fluorophenol (Surr)</i>	03	15.7 %	10-52	11/02/2022 09:00	11/03/2022 00:09							
<i>Surr: Nitrobenzene-d5 (Surr)</i>	03	28.1 %	10-98.5	11/02/2022 09:00	11/03/2022 00:09							
<i>Surr: Phenol-d5 (Surr)</i>	03	11.3 %	5-33	11/02/2022 09:00	11/03/2022 00:09							
<i>Surr: p-Terphenyl-d14 (Surr)</i>	03	57.1 %	27-133	11/02/2022 09:00	11/03/2022 00:09							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1391-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>												
Endosulfan sulfate	03	1031-07-8	SW8081B	10/31/2022 14:45	11/03/2022 09:55	BLOD		0.005	0.052	1	ug/L	LBH2
gamma-Chlordane	03	5103-74-2	SW8081B	10/31/2022 14:45	11/03/2022 09:55	BLOD		0.005	0.052	1	ug/L	LBH2
Surr: TCMX	03	77.6 %	18-112	10/31/2022 14:45	11/03/2022 09:55							
Surr: DCB	03	84.0 %	27-131	10/31/2022 14:45	11/03/2022 09:55							



### Certificate of Analysis

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 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-3A

Laboratory Sample ID: 22J1391-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	03	93-76-5	SW8151A	10/31/2022 12:30	11/03/2022 12:51	BLOD		0.200	0.500	1	ug/L	LBH2
Surr: DCAA (Surr)	03	73.9 %	48.5-134	10/31/2022 12:30	11/03/2022 12:51							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: **MW-4**

Laboratory Sample ID: **22J1391-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	04	93-76-5	SW8151A	10/31/2022 12:30	11/03/2022 13:17	BLOD		0.200	0.500	1	ug/L	LBH2
Surr: DCAA (Surr)	04	63.2 %	48.5-134	10/31/2022 12:30	11/03/2022 13:17							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: MW-20

Laboratory Sample ID: 22J1391-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	05	93-76-5	SW8151A	11/02/2022 14:37	11/03/2022 12:07	BLOD		0.200	0.500	1	ug/L	LBH2
<i>Surr: DCAA (Surr)</i>	05	65.1 %	48.5-134	11/02/2022 14:37	11/03/2022 12:07							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Client Sample ID: Field Blank

Laboratory Sample ID: 22J1391-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Organochlorine Herbicides by GC/ECD</b>												
2,4,5-Trichlorophenoxyacetic acid	06	93-76-5	SW8151A	10/31/2022 12:30	11/03/2022 13:43	BLOD		0.200	0.500	1	ug/L	LBH2
Surr: DCAA (Surr)	06	86.3 %	48.5-134	10/31/2022 12:30	11/03/2022 13:43							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0860 - EPA200.2/R2.8**

**Blank (BFJ0860-BLK1)**

Prepared: 10/21/2022 Analyzed: 10/24/2022

Tin	ND	0.0200	mg/L							
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**LCS (BFJ0860-BS1)**

Prepared: 10/21/2022 Analyzed: 10/24/2022

Tin	0.0890	0.0200	mg/L	0.100		89.0	80-120			
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**Matrix Spike (BFJ0860-MS1)**

**Source: 22J1082-05**

Prepared: 10/21/2022 Analyzed: 10/24/2022

Tin	0.0928	0.0200	mg/L	0.100	BLOD	92.8	75-125			
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**Matrix Spike Dup (BFJ0860-MSD1)**

**Source: 22J1082-05**

Prepared: 10/21/2022 Analyzed: 10/24/2022

Tin	0.0910	0.0200	mg/L	0.100	BLOD	91.0	75-125	1.89	20	
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**Batch BFJ0866 - EPA200.8 R5.4**

**Blank (BFJ0866-BLK1)**

Prepared: 10/21/2022 Analyzed: 10/31/2022

Antimony	ND	1.0	ug/L							
Arsenic	ND	1.0	ug/L							
Barium	ND	5.00	ug/L							
Beryllium	ND	1.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	1.00	ug/L							
Cobalt	ND	1.00	ug/L							
Copper	ND	1.00	ug/L							
Lead	ND	1.0	ug/L							
Nickel	ND	1.000	ug/L							
Selenium	ND	1.00	ug/L							
Silver	ND	1.00	ug/L							
Thallium	ND	1.0	ug/L							
Vanadium	ND	5.00	ug/L							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0866 - EPA200.8 R5.4

**Blank (BFJ0866-BLK1)**

Prepared: 10/21/2022 Analyzed: 10/31/2022

Zinc	ND	5.00	ug/L							
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**LCS (BFJ0866-BS1)**

Prepared: 10/21/2022 Analyzed: 10/31/2022

Antimony	50	1.0	ug/L	50.0		101	80-120			
Arsenic	50	1.0	ug/L	50.0		100	80-120			
Barium	47.9	5.00	ug/L	50.0		95.8	80-120			
Beryllium	45.1	1.00	ug/L	50.0		90.2	80-120			
Cadmium	50.1	1.00	ug/L	50.0		100	80-120			
Chromium	50.1	1.00	ug/L	50.0		100	80-120			
Cobalt	49.7	1.00	ug/L	50.0		99.3	80-120			
Copper	50.6	1.00	ug/L	50.0		101	80-120			
Lead	49	1.0	ug/L	50.0		97.7	80-120			
Nickel	49.89	1.000	ug/L	50.0		99.8	80-120			
Selenium	51.9	1.00	ug/L	50.0		104	80-120			
Silver	9.47	1.00	ug/L	10.0		94.7	80-120			E
Thallium	49	1.0	ug/L	50.0		97.7	80-120			
Vanadium	49.8	5.00	ug/L	50.0		99.6	80-120			
Zinc	52.5	5.00	ug/L	50.0		105	80-120			

**Matrix Spike (BFJ0866-MS1)**

Source: 22J1068-04

Prepared: 10/21/2022 Analyzed: 10/31/2022

Antimony	51	1.0	ug/L	50.0	BLOD	101	75-125			
Arsenic	50	1.0	ug/L	50.0	BLOD	100	75-125			
Barium	87.8	5.00	ug/L	50.0	40.0	95.6	75-125			
Beryllium	47.4	1.00	ug/L	50.0	BLOD	94.8	75-125			
Cadmium	51.4	1.00	ug/L	50.0	0.117	103	75-125			
Chromium	50.1	1.00	ug/L	50.0	0.400	99.3	75-125			

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0866 - EPA200.8 R5.4

Matrix Spike (BFJ0866-MS1)	Source: 22J1068-04			Prepared: 10/21/2022 Analyzed: 10/31/2022						
Cobalt	51.5	1.00	ug/L	50.0	1.40	100	75-125			
Copper	50.9	1.00	ug/L	50.0	0.803	100	75-125			
Lead	49	1.0	ug/L	50.0	BLOD	98.7	75-125			
Nickel	50.53	1.000	ug/L	50.0	BLOD	101	75-125			
Selenium	52.3	1.00	ug/L	50.0	BLOD	105	75-125			
Silver	9.51	1.00	ug/L	10.0	BLOD	95.1	75-125			E
Thallium	49	1.0	ug/L	50.0	BLOD	97.5	75-125			
Vanadium	51.6	5.00	ug/L	50.0	BLOD	103	75-125			
Zinc	62.8	5.00	ug/L	50.0	10.9	104	75-125			

Matrix Spike (BFJ0866-MS2)	Source: 22J1082-05			Prepared: 10/21/2022 Analyzed: 10/31/2022						
Antimony	51	1.0	ug/L	50.0	BLOD	102	75-125			
Arsenic	50	1.0	ug/L	50.0	BLOD	99.3	75-125			
Barium	58.0	5.00	ug/L	50.0	10.5	95.0	75-125			
Cadmium	51.0	1.00	ug/L	50.0	0.124	102	75-125			
Chromium	50.5	1.00	ug/L	50.0	0.529	100	75-125			
Cobalt	50.0	1.00	ug/L	50.0	BLOD	99.9	75-125			
Copper	51.5	1.00	ug/L	50.0	1.44	100	75-125			
Lead	51	1.0	ug/L	50.0	BLOD	101	75-125			
Nickel	50.02	1.000	ug/L	50.0	BLOD	100	75-125			
Selenium	52.0	1.00	ug/L	50.0	BLOD	104	75-125			
Silver	9.53	1.00	ug/L	10.0	0.0812	94.5	75-125			E
Thallium	50	1.0	ug/L	50.0	BLOD	99.1	75-125			
Vanadium	50.5	5.00	ug/L	50.0	BLOD	101	75-125			
Zinc	61.9	5.00	ug/L	50.0	9.95	104	75-125			



### Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BFJ0866 - EPA200.8 R5.4

Matrix Spike (BFJ0866-MS3)	Source: 22J1082-05RE1			Prepared: 10/21/2022 Analyzed: 11/01/2022						
Antimony	51	1.0	ug/L	50.0	BLOD	103	75-125			
Arsenic	49	1.0	ug/L	50.0	BLOD	97.5	75-125			
Barium	58.6	5.00	ug/L	50.0	10.5	96.3	75-125			
Beryllium	46.8	1.00	ug/L	50.0	BLOD	93.6	75-125			
Cadmium	50.4	1.00	ug/L	50.0	0.124	101	75-125			
Chromium	50.9	1.00	ug/L	50.0	0.529	101	75-125			
Cobalt	49.2	1.00	ug/L	50.0	BLOD	98.4	75-125			
Copper	50.3	1.00	ug/L	50.0	1.44	97.8	75-125			
Lead	53	1.0	ug/L	50.0	BLOD	105	75-125			
Nickel	48.76	1.000	ug/L	50.0	BLOD	97.5	75-125			
Selenium	49.7	1.00	ug/L	50.0	BLOD	99.4	75-125			
Silver	9.40	1.00	ug/L	10.0	0.0812	93.2	75-125			E
Thallium	51	1.0	ug/L	50.0	BLOD	103	75-125			
Vanadium	50.6	5.00	ug/L	50.0	BLOD	101	75-125			
Zinc	60.6	5.00	ug/L	50.0	9.95	101	75-125			

Matrix Spike Dup (BFJ0866-MSD1)	Source: 22J1068-04			Prepared: 10/21/2022 Analyzed: 10/31/2022						
Antimony	51	1.0	ug/L	50.0	BLOD	101	75-125	0.109	20	
Arsenic	50	1.0	ug/L	50.0	BLOD	99.9	75-125	0.385	20	
Barium	88.6	5.00	ug/L	50.0	40.0	97.2	75-125	0.913	20	
Beryllium	46.5	1.00	ug/L	50.0	BLOD	93.1	75-125	1.82	20	
Cadmium	51.3	1.00	ug/L	50.0	0.117	102	75-125	0.111	20	
Chromium	50.3	1.00	ug/L	50.0	0.400	99.9	75-125	0.550	20	
Cobalt	51.6	1.00	ug/L	50.0	1.40	100	75-125	0.166	20	
Copper	51.6	1.00	ug/L	50.0	0.803	102	75-125	1.32	20	

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0866 - EPA200.8 R5.4

Matrix Spike Dup (BFJ0866-MSD1)		Source: 22J1068-04			Prepared: 10/21/2022 Analyzed: 10/31/2022					
Lead	50	1.0	ug/L	50.0	BLOD	99.4	75-125	0.654	20	
Nickel	51.39	1.000	ug/L	50.0	BLOD	103	75-125	1.68	20	
Selenium	52.4	1.00	ug/L	50.0	BLOD	105	75-125	0.194	20	
Silver	9.39	1.00	ug/L	10.0	BLOD	93.9	75-125	1.25	20	E
Thallium	49	1.0	ug/L	50.0	BLOD	97.3	75-125	0.200	20	
Vanadium	51.4	5.00	ug/L	50.0	BLOD	103	75-125	0.393	20	
Zinc	62.8	5.00	ug/L	50.0	10.9	104	75-125	0.0142	20	

Matrix Spike Dup (BFJ0866-MSD2)		Source: 22J1082-05			Prepared: 10/21/2022 Analyzed: 10/31/2022					
Antimony	51	1.0	ug/L	50.0	BLOD	102	75-125	0.359	20	
Arsenic	50	1.0	ug/L	50.0	BLOD	101	75-125	1.60	20	
Barium	58.2	5.00	ug/L	50.0	10.5	95.5	75-125	0.427	20	
Cadmium	50.7	1.00	ug/L	50.0	0.124	101	75-125	0.570	20	
Chromium	50.7	1.00	ug/L	50.0	0.529	100	75-125	0.257	20	
Cobalt	49.4	1.00	ug/L	50.0	BLOD	98.8	75-125	1.18	20	
Copper	51.9	1.00	ug/L	50.0	1.44	101	75-125	0.811	20	
Lead	50	1.0	ug/L	50.0	BLOD	99.6	75-125	1.57	20	
Nickel	50.29	1.000	ug/L	50.0	BLOD	101	75-125	0.530	20	
Selenium	53.1	1.00	ug/L	50.0	BLOD	106	75-125	2.02	20	
Silver	9.59	1.00	ug/L	10.0	0.0812	95.1	75-125	0.612	20	E
Thallium	49	1.0	ug/L	50.0	BLOD	98.0	75-125	1.16	20	
Vanadium	50.6	5.00	ug/L	50.0	BLOD	101	75-125	0.128	20	
Zinc	63.8	5.00	ug/L	50.0	9.95	108	75-125	2.95	20	

Matrix Spike Dup (BFJ0866-MSD3)		Source: 22J1082-05RE1			Prepared: 10/21/2022 Analyzed: 11/01/2022					
Antimony	52	1.0	ug/L	50.0	BLOD	103	75-125	0.158	20	

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0866 - EPA200.8 R5.4

Matrix Spike Dup (BFJ0866-MSD3)	Source: 22J1082-05RE1		Prepared: 10/21/2022 Analyzed: 11/01/2022							
Arsenic	49	1.0	ug/L	50.0	BLOD	98.0	75-125	0.489	20	
Barium	59.2	5.00	ug/L	50.0	10.5	97.5	75-125	1.01	20	
Beryllium	47.4	1.00	ug/L	50.0	BLOD	94.7	75-125	1.22	20	
Cadmium	50.3	1.00	ug/L	50.0	0.124	100	75-125	0.149	20	
Chromium	50.9	1.00	ug/L	50.0	0.529	101	75-125	0.00321	20	
Cobalt	48.6	1.00	ug/L	50.0	BLOD	97.2	75-125	1.19	20	
Copper	50.1	1.00	ug/L	50.0	1.44	97.4	75-125	0.396	20	
Lead	53	1.0	ug/L	50.0	BLOD	106	75-125	0.904	20	
Nickel	48.78	1.000	ug/L	50.0	BLOD	97.6	75-125	0.0536	20	
Selenium	50.2	1.00	ug/L	50.0	BLOD	100	75-125	1.03	20	
Silver	9.32	1.00	ug/L	10.0	0.0812	92.4	75-125	0.844	20	E
Thallium	53	1.0	ug/L	50.0	BLOD	105	75-125	2.52	20	
Vanadium	50.3	5.00	ug/L	50.0	BLOD	101	75-125	0.540	20	
Zinc	61.0	5.00	ug/L	50.0	9.95	102	75-125	0.660	20	

### Batch BFK0076 - SW7470A

Blank (BFK0076-BLK1)	Prepared & Analyzed: 11/02/2022										
Mercury	ND	0.00020	mg/L								
LCS (BFK0076-BS1)	Prepared & Analyzed: 11/02/2022										
Mercury	0.00247	0.00020	mg/L	0.00250			99.0	80-120			
Matrix Spike (BFK0076-MS1)	Source: 22J1082-05		Prepared & Analyzed: 11/02/2022								
Mercury	0.00245	0.00020	mg/L	0.00250	BLOD	97.8	80-120				
Matrix Spike Dup (BFK0076-MSD1)	Source: 22J1082-05		Prepared & Analyzed: 11/02/2022								
Mercury	0.00255	0.00020	mg/L	0.00250	BLOD	102	80-120	4.09	20		

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0903 - SW5030B-MS**

**Blank (BFJ0903-BLK1)**

Prepared & Analyzed: 10/24/2022

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

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Enthalpy Analytical

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### Batch BFJ0903 - SW5030B-MS

**Blank (BFJ0903-BLK1)**

Prepared & Analyzed: 10/24/2022

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							
Naphthalene	ND	1.00	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)	46.7		ug/L	50.0		93.3	70-120			
Surr: 4-Bromofluorobenzene (Surr)	50.5		ug/L	50.0		101	75-120			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0903 - SW5030B-MS

**Blank (BFJ0903-BLK1)**

Prepared & Analyzed: 10/24/2022

<i>Surr: Dibromofluoromethane (Surr)</i>	46.6		ug/L	50.0		93.1	70-130
<i>Surr: Toluene-d8 (Surr)</i>	49.6		ug/L	50.0		99.2	70-130

**LCS (BFJ0903-BS1)**

Prepared & Analyzed: 10/24/2022

1,1,1,2-Tetrachloroethane	48.4	0.4	ug/L	50.0		96.8	80-130
1,1,1-Trichloroethane	42.0	1	ug/L	50.0		84.1	65-130
1,1,2,2-Tetrachloroethane	46.8	0.4	ug/L	50.0		93.5	65-130
1,1,2-Trichloroethane	46.8	1	ug/L	50.0		93.5	75-125
1,1-Dichloroethane	42.6	1	ug/L	50.0		85.3	70-135
1,1-Dichloroethylene	38.3	1	ug/L	50.0		76.6	70-130
1,2,3-Trichloropropane	46.0	1	ug/L	50.0		92.0	75-125
1,2-Dichlorobenzene	46.6	0.5	ug/L	50.0		93.2	70-120
1,2-Dichloroethane	37.1	1	ug/L	50.0		74.2	70-130
1,2-Dichloropropane	46.6	0.5	ug/L	50.0		93.3	75-125
1,4-Dichlorobenzene	48.0	1	ug/L	50.0		96.1	75-125
2-Butanone (MEK)	43.7	10	ug/L	50.0		87.4	30-150
2-Hexanone (MBK)	46.7	5	ug/L	50.0		93.3	55-130
4-Methyl-2-pentanone (MIBK)	44.7	5	ug/L	50.0		89.5	60-135
Acetone	43.1	10	ug/L	50.0		86.2	40-140
Acrylonitrile	301	5	ug/L	250		121	70-130
Benzene	45.7	1	ug/L	50.0		91.4	80-120
Bromochloromethane	42.0	1	ug/L	50.0		84.0	65-130
Bromodichloromethane	46.5	0.5	ug/L	50.0		92.9	75-120
Bromoform	52.8	1	ug/L	50.0		106	70-130
Bromomethane	34.3	1	ug/L	50.0		68.6	30-145

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Enthalpy Analytical

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**Batch BFJ0903 - SW5030B-MS**

**LCS (BFJ0903-BS1)**

Prepared & Analyzed: 10/24/2022

Carbon disulfide	47.6	10	ug/L	50.0		95.3	35-160			
Carbon tetrachloride	47.0	1	ug/L	50.0		94.0	65-140			
Chlorobenzene	47.7	1	ug/L	50.0		95.4	80-120			
Chloroethane	38.8	1	ug/L	50.0		77.6	60-135			
Chloroform	41.7	0.5	ug/L	50.0		83.3	65-135			
Chloromethane	42.6	1	ug/L	50.0		85.2	40-125			
cis-1,2-Dichloroethylene	41.0	1	ug/L	50.0		82.0	70-125			
cis-1,3-Dichloropropene	37.0	1	ug/L	50.0		74.0	70-130			
Dibromochloromethane	47.3	0.5	ug/L	50.0		94.7	60-135			
Dibromomethane	43.0	1	ug/L	50.0		86.1	75-125			
Ethylbenzene	50.9	1	ug/L	50.0		102	75-125			
m+p-Xylenes	101	2	ug/L	100		101	75-130			
Methylene chloride	41.7	4	ug/L	50.0		83.5	55-140			
Naphthalene	41.5	1	ug/L	50.0		83.0	55-140			
o-Xylene	52.8	1	ug/L	50.0		106	80-120			
Styrene	47.3	1	ug/L	50.0		94.6	65-135			
Tetrachloroethylene (PCE)	80.5	1	ug/L	50.0		161	45-150			L
Toluene	46.8	1	ug/L	50.0		93.6	75-120			
trans-1,2-Dichloroethylene	39.8	1	ug/L	50.0		79.7	60-140			
trans-1,3-Dichloropropene	39.8	1	ug/L	50.0		79.6	55-140			
Trichloroethylene	45.6	1	ug/L	50.0		91.3	70-125			
Trichlorofluoromethane	42.6	1	ug/L	50.0		85.2	60-145			
Vinyl chloride	36.2	0.5	ug/L	50.0		72.4	50-145			
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<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>43.7</i>		<i>ug/L</i>	<i>50.0</i>		<i>87.5</i>	<i>70-120</i>			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	<i>51.3</i>		<i>ug/L</i>	<i>50.0</i>		<i>103</i>	<i>75-120</i>			



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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

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### Batch BFJ0903 - SW5030B-MS

**LCS (BFJ0903-BS1)**

Prepared &amp; Analyzed: 10/24/2022

<i>Surr: Dibromofluoromethane (Surr)</i>	43.8		ug/L	50.0		87.7	70-130
<i>Surr: Toluene-d8 (Surr)</i>	48.0		ug/L	50.0		96.1	70-130

**Matrix Spike (BFJ0903-MS1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/24/2022

1,1,1,2-Tetrachloroethane	46.3	0.4	ug/L	50.0	BLOD	92.6	80-130	
1,1,1-Trichloroethane	40.7	1	ug/L	50.0	BLOD	81.4	65-130	
1,1,2,2-Tetrachloroethane	44.6	0.4	ug/L	50.0	BLOD	89.3	65-130	
1,1,2-Trichloroethane	44.8	1	ug/L	50.0	BLOD	89.5	75-125	
1,1-Dichloroethane	40.5	1	ug/L	50.0	BLOD	80.9	70-135	
1,1-Dichloroethylene	37.8	1	ug/L	50.0	BLOD	75.5	70-130	
1,2,3-Trichloropropane	44.6	1	ug/L	50.0	BLOD	89.2	75-125	
1,2-Dichlorobenzene	45.7	0.5	ug/L	50.0	BLOD	91.5	70-120	
1,2-Dichloroethane	34.6	1	ug/L	50.0	BLOD	69.1	70-130	M
1,2-Dichloropropane	45.4	0.5	ug/L	50.0	BLOD	90.7	75-125	
1,4-Dichlorobenzene	46.6	1	ug/L	50.0	BLOD	93.1	75-125	
2-Butanone (MEK)	40.9	10	ug/L	50.0	BLOD	81.8	30-150	
2-Hexanone (MBK)	45.7	5	ug/L	50.0	BLOD	91.4	55-130	
4-Methyl-2-pentanone (MIBK)	45.0	5	ug/L	50.0	BLOD	89.9	60-135	
Acetone	42.9	10	ug/L	50.0	BLOD	85.8	40-140	
Acrylonitrile	290	5	ug/L	250	BLOD	116	70-130	
Benzene	44.6	1	ug/L	50.0	BLOD	89.1	80-120	
Bromochloromethane	39.0	1	ug/L	50.0	BLOD	78.1	65-130	
Bromodichloromethane	45.2	0.5	ug/L	50.0	BLOD	90.5	75-120	
Bromoform	50.6	1	ug/L	50.0	BLOD	101	70-130	
Bromomethane	34.2	1	ug/L	50.0	BLOD	68.4	30-145	

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BFJ0903 - SW5030B-MS

Matrix Spike (BFJ0903-MS1)	Source: 22J1082-05			Prepared & Analyzed: 10/24/2022						
Carbon disulfide	45.6	10	ug/L	50.0	BLOD	91.2	35-160			
Carbon tetrachloride	46.5	1	ug/L	50.0	BLOD	92.9	65-140			
Chlorobenzene	45.6	1	ug/L	50.0	BLOD	91.2	80-120			
Chloroethane	36.6	1	ug/L	50.0	BLOD	73.1	60-135			
Chloroform	39.4	0.5	ug/L	50.0	BLOD	78.8	65-135			
Chloromethane	39.4	1	ug/L	50.0	BLOD	78.8	40-125			
cis-1,2-Dichloroethylene	38.5	1	ug/L	50.0	BLOD	77.0	70-125			
cis-1,3-Dichloropropene	35.3	1	ug/L	50.0	BLOD	70.6	70-130			
Dibromochloromethane	45.5	0.5	ug/L	50.0	BLOD	91.0	60-135			
Dibromomethane	41.2	1	ug/L	50.0	BLOD	82.5	75-125			
Dichlorodifluoromethane	35.8	1	ug/L	50.0	BLOD	71.6	30-155			
Ethylbenzene	48.9	1	ug/L	50.0	BLOD	97.7	75-125			
m+p-Xylenes	97.9	2	ug/L	100	BLOD	97.9	75-130			
Methylene chloride	38.6	4	ug/L	50.0	BLOD	77.1	55-140			
Naphthalene	41.1	1	ug/L	50.0	BLOD	82.2	55-140			
o-Xylene	50.4	1	ug/L	50.0	BLOD	101	80-120			
Styrene	45.2	1	ug/L	50.0	BLOD	90.3	65-135			
Tetrachloroethylene (PCE)	78.6	1	ug/L	50.0	BLOD	157	45-150			M
Toluene	45.4	1	ug/L	50.0	BLOD	90.8	75-120			
trans-1,2-Dichloroethylene	37.7	1	ug/L	50.0	BLOD	75.5	60-140			
trans-1,3-Dichloropropene	38.4	1	ug/L	50.0	BLOD	76.7	55-140			
Trichloroethylene	44.2	1	ug/L	50.0	BLOD	88.4	70-125			
Trichlorofluoromethane	41.1	1	ug/L	50.0	BLOD	82.2	60-145			
Vinyl chloride	34.2	0.5	ug/L	50.0	BLOD	68.4	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>42.1</i>		<i>ug/L</i>	<i>50.0</i>		<i>84.3</i>	<i>70-120</i>			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0903 - SW5030B-MS

**Matrix Spike (BFJ0903-MS1)**                      **Source: 22J1082-05**                      Prepared & Analyzed: 10/24/2022

Surr: 4-Bromofluorobenzene (Surr)	50.1		ug/L	50.0		100	75-120		
Surr: Dibromofluoromethane (Surr)	42.6		ug/L	50.0		85.2	70-130		
Surr: Toluene-d8 (Surr)	48.5		ug/L	50.0		96.9	70-130		

**Matrix Spike Dup (BFJ0903-MSD1)**                      **Source: 22J1082-05**                      Prepared & Analyzed: 10/24/2022

1,1,1,2-Tetrachloroethane	46.7	0.4	ug/L	50.0	BLOD	93.3	80-130	0.774	30	
1,1,1-Trichloroethane	40.1	1	ug/L	50.0	BLOD	80.3	65-130	1.41	30	
1,1,2,2-Tetrachloroethane	45.1	0.4	ug/L	50.0	BLOD	90.1	65-130	0.936	30	
1,1,2-Trichloroethane	44.6	1	ug/L	50.0	BLOD	89.1	75-125	0.448	30	
1,1-Dichloroethane	40.2	1	ug/L	50.0	BLOD	80.4	70-135	0.694	30	
1,1-Dichloroethylene	36.8	1	ug/L	50.0	BLOD	73.6	70-130	2.55	30	
1,2,3-Trichloropropane	44.7	1	ug/L	50.0	BLOD	89.5	75-125	0.246	30	
1,2-Dichlorobenzene	45.3	0.5	ug/L	50.0	BLOD	90.6	70-120	0.989	30	
1,2-Dichloroethane	34.9	1	ug/L	50.0	BLOD	69.7	70-130	0.893	30	M
1,2-Dichloropropane	44.9	0.5	ug/L	50.0	BLOD	89.8	75-125	0.975	30	
1,4-Dichlorobenzene	45.4	1	ug/L	50.0	BLOD	90.7	75-125	2.61	30	
2-Butanone (MEK)	38.3	10	ug/L	50.0	BLOD	76.6	30-150	6.51	30	
2-Hexanone (MBK)	45.7	5	ug/L	50.0	BLOD	91.5	55-130	0.0656	30	
4-Methyl-2-pentanone (MIBK)	45.5	5	ug/L	50.0	BLOD	91.0	60-135	1.22	30	
Acetone	42.8	10	ug/L	50.0	BLOD	85.7	40-140	0.140	30	
Acrylonitrile	296	5	ug/L	250	BLOD	118	70-130	1.87	30	
Benzene	43.8	1	ug/L	50.0	BLOD	87.6	80-120	1.72	30	
Bromochloromethane	39.6	1	ug/L	50.0	BLOD	79.3	65-130	1.50	30	
Bromodichloromethane	44.6	0.5	ug/L	50.0	BLOD	89.1	75-120	1.49	30	
Bromoform	51.5	1	ug/L	50.0	BLOD	103	70-130	1.76	30	

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Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0903 - SW5030B-MS

Matrix Spike Dup (BFJ0903-MSD1)	Source: 22J1082-05			Prepared & Analyzed: 10/24/2022						
Bromomethane	34.7	1	ug/L	50.0	BLOD	69.3	30-145	1.42	30	
Carbon disulfide	43.4	10	ug/L	50.0	BLOD	86.8	35-160	5.03	30	
Carbon tetrachloride	45.2	1	ug/L	50.0	BLOD	90.3	65-140	2.82	30	
Chlorobenzene	46.1	1	ug/L	50.0	BLOD	92.1	80-120	1.03	30	
Chloroethane	35.4	1	ug/L	50.0	BLOD	70.7	60-135	3.31	30	
Chloroform	39.0	0.5	ug/L	50.0	BLOD	78.0	65-135	1.05	30	
Chloromethane	38.7	1	ug/L	50.0	BLOD	77.5	40-125	1.66	30	
cis-1,2-Dichloroethylene	38.2	1	ug/L	50.0	BLOD	76.3	70-125	0.913	30	
cis-1,3-Dichloropropene	35.5	1	ug/L	50.0	BLOD	71.1	70-130	0.734	30	
Dibromochloromethane	45.6	0.5	ug/L	50.0	BLOD	91.2	60-135	0.176	30	
Dibromomethane	41.5	1	ug/L	50.0	BLOD	83.0	75-125	0.677	30	
Ethylbenzene	48.6	1	ug/L	50.0	BLOD	97.1	75-125	0.616	30	
m+p-Xylenes	96.9	2	ug/L	100	BLOD	96.9	75-130	0.945	30	
Methylene chloride	38.4	4	ug/L	50.0	BLOD	76.8	55-140	0.468	30	
Naphthalene	40.1	1	ug/L	50.0	BLOD	80.1	55-140	2.61	30	
o-Xylene	50.4	1	ug/L	50.0	BLOD	101	80-120	0.139	30	
Styrene	45.2	1	ug/L	50.0	BLOD	90.3	65-135	0.0443	30	
Tetrachloroethylene (PCE)	77.6	1	ug/L	50.0	BLOD	155	45-150	1.31	30	M
Toluene	44.5	1	ug/L	50.0	BLOD	89.0	75-120	2.07	30	
trans-1,2-Dichloroethylene	37.4	1	ug/L	50.0	BLOD	74.7	60-140	1.04	30	
trans-1,3-Dichloropropene	38.7	1	ug/L	50.0	BLOD	77.4	55-140	0.908	30	
Trichloroethylene	43.4	1	ug/L	50.0	BLOD	86.8	70-125	1.80	30	
Trichlorofluoromethane	39.8	1	ug/L	50.0	BLOD	79.6	60-145	3.29	30	
Vinyl chloride	33.1	0.5	ug/L	50.0	BLOD	66.1	50-145	3.36	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	<i>42.8</i>		<i>ug/L</i>	<i>50.0</i>		<i>85.5</i>	<i>70-120</i>			

## Certificate of Analysis

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 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0903 - SW5030B-MS**

**Matrix Spike Dup (BFJ0903-MSD1)**                      **Source: 22J1082-05**                      Prepared & Analyzed: 10/24/2022

<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.3		ug/L	50.0		103	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	42.9		ug/L	50.0		85.8	70-130
<i>Surr: Toluene-d8 (Surr)</i>	48.4		ug/L	50.0		96.7	70-130

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0881 - SW3510C/EPA600-MS

**Blank (BFJ0881-BLK1)**

Prepared &amp; Analyzed: 10/24/2022

4-Aminobiphenyl	ND	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	ND	5.00	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>	74.2		ug/L	100		74.2	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	37.4		ug/L	50.0		74.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	45.9		ug/L	100		45.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	36.6		ug/L	50.0		73.3	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	28.6		ug/L	100		28.6	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	39.7		ug/L	50.0		79.4	27-133			

**LCS (BFJ0881-BS1)**

Prepared &amp; Analyzed: 10/24/2022

1,2,4-Trichlorobenzene	15.5	10.0	ug/L	50.0		31.0	22-135			
1,2-Dichlorobenzene	13.8	10.0	ug/L	50.0		27.6	22-115			
1,3-Dichlorobenzene	12.6	10.0	ug/L	50.0		25.2	22-112			
1,4-Dichlorobenzene	13.4	10.0	ug/L	50.0		26.7	13-112			
2,4,6-Trichlorophenol	19.5	10.0	ug/L	50.0		39.0	11-145			
2,4-Dichlorophenol	19.4	10.0	ug/L	50.0		38.7	11-75			
2,4-Dimethylphenol	20.0	5.00	ug/L	50.0		39.9	11-121			
2,4-Dinitrophenol	28.2	50.0	ug/L	50.0		56.5	11-165			
2,4-Dinitrotoluene	31.8	10.0	ug/L	50.0		63.6	17-155			
2,6-Dinitrotoluene	22.5	10.0	ug/L	50.0		45.0	15-125			
2-Chloronaphthalene	17.4	10.0	ug/L	50.0		34.9	27-89			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0881 - SW3510C/EPA600-MS**

**LCS (BFJ0881-BS1)**

Prepared & Analyzed: 10/24/2022

2-Chlorophenol	17.8	10.0	ug/L	50.0		35.7	15-110			
2-Nitrophenol	20.1	10.0	ug/L	50.0		40.2	11-115			
3,3'-Dichlorobenzidine	24.0	10.0	ug/L	50.0		47.9	25-95			
4,6-Dinitro-2-methylphenol	33.2	50.0	ug/L	50.0		66.3	25-130			
4-Bromophenyl phenyl ether	22.7	10.0	ug/L	50.0		45.4	15-110			
4-Chlorophenyl phenyl ether	18.2	10.0	ug/L	50.0		36.3	15-110			
4-Nitrophenol	11.3	50.0	ug/L	50.0		22.5	12-70			
Acenaphthene	18.0	10.0	ug/L	50.0		35.9	18-85			
Acenaphthylene	18.7	10.0	ug/L	50.0		37.4	20-75			
Acetophenone	19.5	20.0	ug/L	50.0		39.0	0-200			
alpha-Terpineol	21.3	2.50	ug/L	50.0		42.7	0-200			
Anthracene	31.9	10.0	ug/L	50.0		63.8	35-95			
Benzo (a) anthracene	34.4	10.0	ug/L	50.0		68.7	25-95			
Benzo (a) pyrene	45.3	0.20	ug/L	50.0		90.5	37-110			
Benzo (b) fluoranthene	43.2	10.0	ug/L	50.0		86.4	25-75			L
Benzo (g,h,i) perylene	40.4	10.0	ug/L	50.0		80.8	25-90			
Benzo (k) fluoranthene	44.3	10.0	ug/L	50.0		88.6	25-95			
bis (2-Chloroethoxy) methane	16.6	10.0	ug/L	50.0		33.2	25-110			
bis (2-Chloroethyl) ether	16.1	10.0	ug/L	50.0		32.1	25-85			
2,2'-Oxybis (1-chloropropane)	16.5	10.0	ug/L	50.0		32.9	25-95			
bis (2-Ethylhexyl) phthalate	40.7	5.00	ug/L	50.0		81.4	30-125			
Butyl benzyl phthalate	40.6	10.0	ug/L	50.0		81.1	30-115			
Carbazole	39.3	2.50	ug/L	50.0		78.5	0-200			
Chrysene	43.6	10.0	ug/L	50.0		87.2	20-90			
Dibenz (a,h) anthracene	45.6	10.0	ug/L	50.0		91.1	27-125			



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Enthalpy Analytical

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### Batch BFJ0881 - SW3510C/EPA600-MS

**LCS (BFJ0881-BS1)**

Prepared &amp; Analyzed: 10/24/2022

Diethyl phthalate	28.3	10.0	ug/L	50.0		56.5	25-120			
Dimethyl phthalate	24.8	10.0	ug/L	50.0		49.5	25-125			
Di-n-butyl phthalate	40.4	10.0	ug/L	50.0		80.9	35-115			
Di-n-octyl phthalate	42.2	10.0	ug/L	50.0		84.5	25-105			
Fluoranthene	41.0	10.0	ug/L	50.0		81.9	33-95			
Fluorene	20.4	10.0	ug/L	50.0		40.8	15-97			
Hexachlorobenzene	32.2	1.00	ug/L	50.0		64.3	25-125			
Hexachlorobutadiene	16.6	10.0	ug/L	50.0		33.2	25-125			
Hexachlorocyclopentadiene	12.0	10.0	ug/L	50.0		23.9	25-125			L
Hexachloroethane	13.4	10.0	ug/L	50.0		26.8	25-125			
Indeno (1,2,3-cd) pyrene	45.1	10.0	ug/L	50.0		90.1	25-125			
Isophorone	10.2	10.0	ug/L	50.0		20.5	10-110			
Naphthalene	17.7	0.10	ug/L	50.0		35.5	12-100			
Nitrobenzene	18.8	10.0	ug/L	50.0		37.6	30-97			
n-Nitrosodimethylamine	12.3	10.0	ug/L	50.0		24.6	10-85			
n-Nitrosodi-n-propylamine	19.0	10.0	ug/L	50.0		38.1	12-97			
n-Nitrosodiphenylamine	20.2	10.0	ug/L	50.0		40.5	12-97			
p-Chloro-m-cresol	20.2	10.0	ug/L	50.0		40.4	10-91			
Pentachlorophenol	32.4	20.0	ug/L	50.0		64.7	30-109			
Phenanthrene	39.1	10.0	ug/L	50.0		78.2	30-88			
Phenol	5.79	10.0	ug/L	50.5		11.5	10-70			
Pyrene	41.1	10.0	ug/L	50.0		82.3	27-110			
Pyridine	17.9	10.0	ug/L	50.0		35.7	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>58.0</i>		ug/L	<i>100</i>		<i>58.0</i>	<i>10-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>18.5</i>		ug/L	<i>50.0</i>		<i>37.0</i>	<i>9-87</i>			

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0881 - SW3510C/EPA600-MS

**LCS (BFJ0881-BS1)**

Prepared & Analyzed: 10/24/2022

<i>Surr: 2-Fluorophenol (Surr)</i>	22.2		ug/L	100		22.2	10-52
<i>Surr: Nitrobenzene-d5 (Surr)</i>	19.1		ug/L	50.0		38.3	10-98.5
<i>Surr: Phenol-d5 (Surr)</i>	14.5		ug/L	100		14.5	5-33
<i>Surr: p-Terphenyl-d14 (Surr)</i>	44.0		ug/L	50.0		88.0	27-133

**Matrix Spike (BFJ0881-MS1)**

**Source: 22J1068-04**

Prepared & Analyzed: 10/24/2022

1,2,4-Trichlorobenzene	27.2	10.0	ug/L	48.5	BLOD	56.0	22-65
1,2-Dichlorobenzene	25.9	10.0	ug/L	48.5	BLOD	53.3	22-60
1,3-Dichlorobenzene	24.0	10.0	ug/L	48.5	BLOD	49.5	22-60
1,4-Dichlorobenzene	25.2	10.0	ug/L	48.5	BLOD	51.9	13-60
2,4,6-Trichlorophenol	31.7	10.0	ug/L	48.5	BLOD	65.4	11-75
2,4-Dichlorophenol	28.9	10.0	ug/L	48.5	BLOD	59.5	11-75
2,4-Dimethylphenol	19.2	4.85	ug/L	48.5	BLOD	39.5	11-65
2,4-Dinitrophenol	41.7	50.0	ug/L	48.5	BLOD	85.9	11-110
2,4-Dinitrotoluene	41.0	10.0	ug/L	48.5	BLOD	84.4	17-95
2,6-Dinitrotoluene	36.4	10.0	ug/L	48.5	BLOD	75.0	15-125
2-Chloronaphthalene	30.1	10.0	ug/L	48.5	BLOD	62.1	27-89
2-Chlorophenol	27.7	10.0	ug/L	48.5	BLOD	57.0	19-64
2-Nitrophenol	31.5	10.0	ug/L	48.5	BLOD	64.8	11-75
3,3'-Dichlorobenzidine	17.6	10.0	ug/L	48.5	BLOD	36.2	10-85
4,6-Dinitro-2-methylphenol	39.5	50.0	ug/L	48.5	BLOD	81.4	40-130
4-Bromophenyl phenyl ether	35.6	10.0	ug/L	48.5	BLOD	73.3	15-110
4-Chlorophenyl phenyl ether	30.0	10.0	ug/L	48.5	BLOD	61.8	15-110
4-Nitrophenol	15.3	50.0	ug/L	48.5	BLOD	31.5	12-70
Acenaphthene	32.0	10.0	ug/L	48.5	BLOD	65.9	15-90

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0881 - SW3510C/EPA600-MS**

Matrix Spike (BFJ0881-MS1)	Source: 22J1068-04			Prepared & Analyzed: 10/24/2022						
Acenaphthylene	32.9	10.0	ug/L	48.5	BLOD	67.7	15-99			
Acetophenone	28.3	20.0	ug/L	48.5	BLOD	58.3	0-200			
alpha-Terpineol	29.7	2.50	ug/L	48.5	BLOD	61.1	0-200			
Anthracene	44.8	10.0	ug/L	48.5	BLOD	92.3	20-95			
Benzo (a) anthracene	35.4	9.71	ug/L	48.5	BLOD	73.0	25-95			
Benzo (a) pyrene	46.8	0.20	ug/L	48.5	BLOD	96.4	25-82			M
Benzo (b) fluoranthene	46.5	10.0	ug/L	48.5	BLOD	95.7	25-75			M
Benzo (g,h,i) perylene	39.3	10.0	ug/L	48.5	BLOD	81.0	25-90			
Benzo (k) fluoranthene	47.4	10.0	ug/L	48.5	BLOD	97.7	25-95			M
bis (2-Chloroethoxy) methane	28.2	10.0	ug/L	48.5	BLOD	58.1	25-85			
bis (2-Chloroethyl) ether	28.0	10.0	ug/L	48.5	BLOD	57.6	25-85			
2,2'-Oxybis (1-chloropropane)	30.9	10.0	ug/L	48.5	BLOD	63.6	25-87			
bis (2-Ethylhexyl) phthalate	43.9	5.00	ug/L	48.5	BLOD	90.4	30-125			
Butyl benzyl phthalate	43.9	10.0	ug/L	48.5	BLOD	90.5	30-115			
Carbazole	47.0	2.50	ug/L	48.5	BLOD	96.9	0-200			
Chrysene	45.1	10.0	ug/L	48.5	BLOD	92.9	20-90			M
Dibenz (a,h) anthracene	45.1	10.0	ug/L	48.5	BLOD	92.9	27-125			
Diethyl phthalate	41.0	10.0	ug/L	48.5	BLOD	84.5	25-120			
Dimethyl phthalate	40.6	10.0	ug/L	48.5	BLOD	83.7	25-125			
Di-n-butyl phthalate	35.6	10.0	ug/L	48.5	BLOD	73.4	25-115			
Di-n-octyl phthalate	50.0	10.0	ug/L	48.5	BLOD	103	22-105			
Fluoranthene	49.1	10.0	ug/L	48.5	BLOD	101	25-96			M
Fluorene	35.8	10.0	ug/L	48.5	BLOD	73.8	15-97			
Hexachlorobenzene	44.1	0.97	ug/L	48.5	BLOD	90.8	25-125			
Hexachlorobutadiene	27.1	10.0	ug/L	48.5	BLOD	55.8	25-125			

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0881 - SW3510C/EPA600-MS

Matrix Spike (BFJ0881-MS1)	Source: 22J1068-04			Prepared & Analyzed: 10/24/2022						
Hexachlorocyclopentadiene	24.2	10.0	ug/L	48.5	BLOD	49.8	10-90			
Hexachloroethane	23.9	10.0	ug/L	48.5	BLOD	49.3	25-125			
Indeno (1,2,3-cd) pyrene	44.3	10.0	ug/L	48.5	BLOD	91.3	25-125			
Isophorone	17.6	10.0	ug/L	48.5	BLOD	36.3	10-110			
Naphthalene	30.1	0.10	ug/L	48.5	BLOD	62.1	12-100			
Nitrobenzene	29.7	10.0	ug/L	48.5	BLOD	61.2	27-77			
n-Nitrosodimethylamine	16.9	10.0	ug/L	48.5	BLOD	34.8	10-85			
n-Nitrosodi-n-propylamine	29.5	10.0	ug/L	48.5	BLOD	60.9	12-97			
n-Nitrosodiphenylamine	26.9	10.0	ug/L	48.5	BLOD	55.5	12-97			
p-Chloro-m-cresol	30.5	10.0	ug/L	48.5	BLOD	62.8	10-91			
Pentachlorophenol	40.5	20.0	ug/L	48.5	BLOD	83.4	27-109			
Phenanthrene	54.2	10.0	ug/L	48.5	BLOD	112	35-115			
Phenol	9.90	10.0	ug/L	49.0	BLOD	20.2	10-70			
Pyrene	44.6	10.0	ug/L	48.5	BLOD	91.9	23-110			
Pyridine	20.8	10.0	ug/L	48.5	BLOD	42.9	0-200			
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<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	81.9		ug/L	97.1		84.3	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	31.1		ug/L	48.5		64.0	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	33.4		ug/L	97.1		34.4	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	29.9		ug/L	48.5		61.6	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.3		ug/L	97.1		24.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	44.5		ug/L	48.5		91.7	27-133			
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Matrix Spike (BFJ0881-MS2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
1,2,4-Trichlorobenzene	29.8	10.0	ug/L	46.7	BLOD	63.7	22-65			
1,2-Dichlorobenzene	29.2	10.0	ug/L	46.7	BLOD	62.4	22-60			M

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0881 - SW3510C/EPA600-MS**

Matrix Spike (BFJ0881-MS2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
1,3-Dichlorobenzene	27.2	10.0	ug/L	46.7	BLOD	58.3	22-60			
1,4-Dichlorobenzene	28.8	10.0	ug/L	46.7	BLOD	61.7	13-60			M
2,4,6-Trichlorophenol	32.4	10.0	ug/L	46.7	BLOD	69.4	11-75			
2,4-Dichlorophenol	29.4	10.0	ug/L	46.7	BLOD	62.9	11-75			
2,4-Dimethylphenol	27.3	4.67	ug/L	46.7	BLOD	58.4	11-65			
2,4-Dinitrophenol	45.8	50.0	ug/L	46.7	BLOD	98.0	11-110			
2,4-Dinitrotoluene	34.5	10.0	ug/L	46.7	BLOD	73.9	17-95			
2,6-Dinitrotoluene	32.8	10.0	ug/L	46.7	BLOD	70.1	15-125			
2-Chloronaphthalene	34.1	10.0	ug/L	46.7	BLOD	73.0	27-89			
2-Chlorophenol	26.8	10.0	ug/L	46.7	BLOD	57.3	19-64			
2-Nitrophenol	31.6	10.0	ug/L	46.7	BLOD	67.6	11-75			
4,6-Dinitro-2-methylphenol	36.2	50.0	ug/L	46.7	BLOD	77.5	40-130			
4-Bromophenyl phenyl ether	27.3	10.0	ug/L	46.7	BLOD	58.4	15-110			
4-Chlorophenyl phenyl ether	28.4	10.0	ug/L	46.7	BLOD	60.7	15-110			
4-Nitrophenol	30.5	50.0	ug/L	46.7	BLOD	65.3	12-70			
Acenaphthene	35.6	10.0	ug/L	46.7	BLOD	76.2	15-90			
Acenaphthylene	36.4	10.0	ug/L	46.7	BLOD	78.0	15-99			
Acetophenone	32.0	20.0	ug/L	46.7	BLOD	68.5	0-200			
alpha-Terpineol	37.9	2.50	ug/L	46.7	BLOD	81.1	0-200			
Anthracene	34.2	10.0	ug/L	46.7	BLOD	73.1	20-95			
Benzo (a) anthracene	17.7	9.35	ug/L	46.7	BLOD	37.9	25-95			
Benzo (a) pyrene	20.8	0.20	ug/L	46.7	BLOD	44.6	25-82			
Benzo (b) fluoranthene	25.8	10.0	ug/L	46.7	BLOD	55.2	25-75			
Benzo (g,h,i) perylene	6.63	10.0	ug/L	46.7	BLOD	14.2	25-90			
Benzo (k) fluoranthene	23.1	10.0	ug/L	46.7	BLOD	49.4	25-95			M

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0881 - SW3510C/EPA600-MS**

Matrix Spike (BFJ0881-MS2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
bis (2-Chloroethoxy) methane	29.8	10.0	ug/L	46.7	BLOD	63.8	25-85			
bis (2-Chloroethyl) ether	31.9	10.0	ug/L	46.7	BLOD	68.2	25-85			
2,2'-Oxybis (1-chloropropane)	35.7	10.0	ug/L	46.7	BLOD	76.4	25-87			
bis (2-Ethylhexyl) phthalate	20.5	5.00	ug/L	46.7	BLOD	43.8	30-125			
Butyl benzyl phthalate	24.8	10.0	ug/L	46.7	BLOD	53.2	30-115			
Carbazole	40.5	2.50	ug/L	46.7	BLOD	86.7	0-200			
Chrysene	22.1	10.0	ug/L	46.7	BLOD	47.3	20-90			
Dibenz (a,h) anthracene	9.16	10.0	ug/L	46.7	BLOD	19.6	27-125			M
Diethyl phthalate	32.0	10.0	ug/L	46.7	BLOD	68.5	25-120			
Dimethyl phthalate	33.4	10.0	ug/L	46.7	BLOD	71.4	25-125			
Di-n-butyl phthalate	28.0	10.0	ug/L	46.7	BLOD	60.0	25-115			
Di-n-octyl phthalate	32.4	10.0	ug/L	46.7	BLOD	69.3	22-105			
Fluoranthene	26.7	10.0	ug/L	46.7	BLOD	57.1	25-96			
Fluorene	35.4	10.0	ug/L	46.7	BLOD	75.7	15-97			
Hexachlorobenzene	21.3	0.93	ug/L	46.7	BLOD	45.5	25-125			
Hexachlorobutadiene	23.6	10.0	ug/L	46.7	BLOD	50.5	25-125			
Hexachlorocyclopentadiene	15.4	10.0	ug/L	46.7	BLOD	33.0	10-90			
Hexachloroethane	21.9	10.0	ug/L	46.7	BLOD	46.9	25-125			
Indeno (1,2,3-cd) pyrene	9.03	10.0	ug/L	46.7	BLOD	19.3	25-125			M
Isophorone	20.4	10.0	ug/L	46.7	BLOD	43.7	10-110			
Naphthalene	36.4	0.10	ug/L	46.7	0.56	76.7	12-100			
Nitrobenzene	33.7	10.0	ug/L	46.7	BLOD	72.1	27-77			
n-Nitrosodimethylamine	20.9	10.0	ug/L	46.7	BLOD	44.8	10-85			
n-Nitrosodi-n-propylamine	33.1	10.0	ug/L	46.7	BLOD	70.9	12-97			
n-Nitrosodiphenylamine	30.0	10.0	ug/L	46.7	BLOD	64.1	12-97			

## Certificate of Analysis

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0881 - SW3510C/EPA600-MS

Matrix Spike (BFJ0881-MS2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
p-Chloro-m-cresol	29.6	10.0	ug/L	46.7	BLOD	63.4	10-91			
Pentachlorophenol	49.5	20.0	ug/L	46.7	BLOD	106	27-109			
Phenanthrene	45.8	10.0	ug/L	46.7	BLOD	98.0	35-115			
Phenol	18.4	10.0	ug/L	47.2	2.76	33.0	10-70			
Pyrene	28.0	10.0	ug/L	46.7	BLOD	59.9	23-110			
Pyridine	22.5	10.0	ug/L	46.7	BLOD	48.2	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	70.9		ug/L	93.5		75.8	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	34.5		ug/L	46.7		73.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	35.3		ug/L	93.5		37.8	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	33.4		ug/L	46.7		71.5	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	28.1		ug/L	93.5		30.1	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	19.9		ug/L	46.7		42.5	27-133			
Matrix Spike Dup (BFJ0881-MSD1)	Source: 22J1068-04			Prepared & Analyzed: 10/24/2022						
1,2,4-Trichlorobenzene	34.0	10.0	ug/L	48.5	BLOD	70.1	22-65	22.5	20	M, P
1,2-Dichlorobenzene	31.8	10.0	ug/L	48.5	BLOD	65.5	22-60	20.6	20	M, P
1,3-Dichlorobenzene	30.4	10.0	ug/L	48.5	BLOD	62.7	22-60	23.6	20	M, P
1,4-Dichlorobenzene	31.1	10.0	ug/L	48.5	BLOD	64.1	13-60	21.1	20	M, P
2,4,6-Trichlorophenol	35.5	10.0	ug/L	48.5	BLOD	73.1	11-75	11.2	20	
2,4-Dichlorophenol	34.1	10.0	ug/L	48.5	BLOD	70.3	11-75	16.7	20	
2,4-Dimethylphenol	21.4	4.85	ug/L	48.5	BLOD	44.1	11-65	11.0	20	
2,4-Dinitrophenol	45.1	50.0	ug/L	48.5	BLOD	92.9	11-110	7.83	20	
2,4-Dinitrotoluene	41.8	10.0	ug/L	48.5	BLOD	86.1	17-95	1.90	20	
2,6-Dinitrotoluene	38.3	10.0	ug/L	48.5	BLOD	79.0	15-125	5.14	20	
2-Chloronaphthalene	35.3	10.0	ug/L	48.5	BLOD	72.7	27-89	15.8	20	



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Enthalpy Analytical

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### Batch BFJ0881 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ0881-MSD1)	Source: 22J1068-04			Prepared & Analyzed: 10/24/2022						
2-Chlorophenol	32.4	10.0	ug/L	48.5	BLOD	66.8	19-64	15.9	20	M
2-Nitrophenol	38.4	10.0	ug/L	48.5	BLOD	79.1	11-75	19.8	20	M
3,3'-Dichlorobenzidine	16.4	10.0	ug/L	48.5	BLOD	33.8	10-85	6.86	20	
4,6-Dinitro-2-methylphenol	41.6	50.0	ug/L	48.5	BLOD	85.8	40-130	5.17	20	
4-Bromophenyl phenyl ether	36.0	10.0	ug/L	48.5	BLOD	74.2	15-110	1.25	20	
4-Chlorophenyl phenyl ether	32.2	10.0	ug/L	48.5	BLOD	66.3	15-110	7.02	20	
4-Nitrophenol	14.8	50.0	ug/L	48.5	BLOD	30.6	12-70	2.90	20	
Acenaphthene	36.4	10.0	ug/L	48.5	BLOD	75.0	15-90	12.8	20	
Acenaphthylene	37.2	10.0	ug/L	48.5	BLOD	76.7	15-99	12.5	20	
Acetophenone	32.4	20.0	ug/L	48.5	BLOD	66.8	0-200	13.5	20	
alpha-Terpineol	34.3	2.50	ug/L	48.5	BLOD	70.6	0-200	14.4	20	
Anthracene	41.9	10.0	ug/L	48.5	BLOD	86.3	20-95	6.76	20	
Benzo (a) anthracene	33.4	9.71	ug/L	48.5	BLOD	68.7	25-95	5.98	20	
Benzo (a) pyrene	45.2	0.20	ug/L	48.5	BLOD	93.1	25-82	3.46	20	M
Benzo (b) fluoranthene	46.2	10.0	ug/L	48.5	BLOD	95.2	25-75	0.566	20	M
Benzo (g,h,i) perylene	37.1	10.0	ug/L	48.5	BLOD	76.4	25-90	5.85	20	
Benzo (k) fluoranthene	43.7	10.0	ug/L	48.5	BLOD	90.1	25-95	8.07	20	
bis (2-Chloroethoxy) methane	34.0	10.0	ug/L	48.5	BLOD	70.0	25-85	18.6	20	
bis (2-Chloroethyl) ether	33.2	10.0	ug/L	48.5	BLOD	68.3	25-85	17.0	20	
2,2'-Oxybis (1-chloropropane)	37.8	10.0	ug/L	48.5	BLOD	77.9	25-87	20.2	20	P
bis (2-Ethylhexyl) phthalate	41.6	5.00	ug/L	48.5	BLOD	85.7	30-125	5.29	20	
Butyl benzyl phthalate	42.5	10.0	ug/L	48.5	BLOD	87.6	30-115	3.24	20	
Carbazole	44.0	2.50	ug/L	48.5	BLOD	90.7	0-200	6.61	20	
Chrysene	42.3	10.0	ug/L	48.5	BLOD	87.2	20-90	6.35	20	
Dibenz (a,h) anthracene	43.3	10.0	ug/L	48.5	BLOD	89.2	27-125	4.11	20	

## Certificate of Analysis

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0881 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFJ0881-MSD1)	Source: 22J1068-04			Prepared & Analyzed: 10/24/2022						
Diethyl phthalate	40.8	10.0	ug/L	48.5	BLOD	84.0	25-120	0.570	20	
Dimethyl phthalate	42.6	10.0	ug/L	48.5	BLOD	87.8	25-125	4.80	20	
Di-n-butyl phthalate	46.7	10.0	ug/L	48.5	BLOD	96.3	25-115	27.0	20	P
Di-n-octyl phthalate	47.9	10.0	ug/L	48.5	BLOD	98.7	22-105	4.23	20	
Fluoranthene	45.6	10.0	ug/L	48.5	BLOD	93.9	25-96	7.39	20	
Fluorene	37.5	10.0	ug/L	48.5	BLOD	77.2	15-97	4.48	20	
Hexachlorobenzene	43.1	0.97	ug/L	48.5	BLOD	88.7	25-125	2.32	20	
Hexachlorobutadiene	33.8	10.0	ug/L	48.5	BLOD	69.7	25-125	22.3	20	P
Hexachlorocyclopentadiene	32.8	10.0	ug/L	48.5	BLOD	67.6	10-90	30.4	20	P
Hexachloroethane	29.9	10.0	ug/L	48.5	BLOD	61.6	25-125	22.2	20	P
Indeno (1,2,3-cd) pyrene	42.2	10.0	ug/L	48.5	BLOD	87.0	25-125	4.87	20	
Isophorone	21.8	10.0	ug/L	48.5	BLOD	44.8	10-110	21.1	20	P
Naphthalene	36.2	0.10	ug/L	48.5	BLOD	74.6	12-100	18.3	20	
Nitrobenzene	34.5	10.0	ug/L	48.5	BLOD	71.1	27-77	14.9	20	
n-Nitrosodimethylamine	22.5	10.0	ug/L	48.5	BLOD	46.3	10-85	28.3	20	P
n-Nitrosodi-n-propylamine	34.0	10.0	ug/L	48.5	BLOD	70.0	12-97	13.9	20	
n-Nitrosodiphenylamine	27.4	10.0	ug/L	48.5	BLOD	56.4	12-97	1.68	20	
p-Chloro-m-cresol	34.3	10.0	ug/L	48.5	BLOD	70.6	10-91	11.8	20	
Pentachlorophenol	40.1	20.0	ug/L	48.5	BLOD	82.6	27-109	0.988	20	
Phenanthrene	51.5	10.0	ug/L	48.5	BLOD	106	35-115	5.13	20	
Phenol	11.7	10.0	ug/L	49.0	BLOD	24.0	10-70	17.0	20	
Pyrene	41.9	10.0	ug/L	48.5	BLOD	86.4	23-110	6.19	20	
Pyridine	21.5	10.0	ug/L	48.5	BLOD	44.2	0-200	3.03	20	
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>81.2</i>		<i>ug/L</i>	<i>97.1</i>		<i>83.6</i>	<i>10-86</i>			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>37.3</i>		<i>ug/L</i>	<i>48.5</i>		<i>76.8</i>	<i>9-87</i>			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0881 - SW3510C/EPA600-MS

**Matrix Spike Dup (BFJ0881-MSD1)**

Source: 22J1068-04

Prepared & Analyzed: 10/24/2022

<i>Surr: 2-Fluorophenol (Surr)</i>	40.0		ug/L	97.1		41.2	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	35.4		ug/L	48.5		73.0	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	26.3		ug/L	97.1		27.1	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	43.5		ug/L	48.5		89.6	27-133			

**Matrix Spike Dup (BFJ0881-MSD2)**

Source: 22J1102-01

Prepared & Analyzed: 10/24/2022

1,2,4-Trichlorobenzene	27.3	10.0	ug/L	46.7	BLOD	58.5	22-65	8.48	20	
1,2-Dichlorobenzene	26.7	10.0	ug/L	46.7	BLOD	57.2	22-60	8.83	20	
1,3-Dichlorobenzene	24.7	10.0	ug/L	46.7	BLOD	52.9	22-60	9.72	20	
1,4-Dichlorobenzene	26.2	10.0	ug/L	46.7	BLOD	56.1	13-60	9.47	20	
2,4,6-Trichlorophenol	28.9	10.0	ug/L	46.7	BLOD	61.9	11-75	11.5	20	
2,4-Dichlorophenol	26.7	10.0	ug/L	46.7	BLOD	57.2	11-75	9.39	20	
2,4-Dimethylphenol	25.1	4.67	ug/L	46.7	BLOD	53.7	11-65	8.43	20	
2,4-Dinitrophenol	39.2	50.0	ug/L	46.7	BLOD	83.8	11-110	15.6	20	
2,4-Dinitrotoluene	33.2	10.0	ug/L	46.7	BLOD	71.1	17-95	3.84	20	
2,6-Dinitrotoluene	33.0	10.0	ug/L	46.7	BLOD	70.6	15-125	0.625	20	
2-Chloronaphthalene	31.1	10.0	ug/L	46.7	BLOD	66.6	27-89	9.19	20	
2-Chlorophenol	24.8	10.0	ug/L	46.7	BLOD	53.1	19-64	7.75	20	
2-Nitrophenol	29.4	10.0	ug/L	46.7	BLOD	63.0	11-75	7.11	20	
4,6-Dinitro-2-methylphenol	30.9	50.0	ug/L	46.7	BLOD	66.0	40-130	15.9	20	
4-Bromophenyl phenyl ether	24.9	10.0	ug/L	46.7	BLOD	53.2	15-110	9.21	20	
4-Chlorophenyl phenyl ether	25.1	10.0	ug/L	46.7	BLOD	53.7	15-110	12.2	20	
4-Nitrophenol	25.1	50.0	ug/L	46.7	BLOD	53.7	12-70	19.4	20	
Acenaphthene	30.8	10.0	ug/L	46.7	BLOD	66.0	15-90	14.3	20	
Acenaphthylene	32.2	10.0	ug/L	46.7	BLOD	69.0	15-99	12.2	20	

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Enthalpy Analytical

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**Batch BFJ0881 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFJ0881-MSD2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
Acetophenone	30.3	20.0	ug/L	46.7	BLOD	64.9	0-200	5.34	20	
alpha-Terpineol	36.4	2.50	ug/L	46.7	BLOD	77.9	0-200	3.97	20	
Anthracene	29.5	10.0	ug/L	46.7	BLOD	63.2	20-95	14.5	20	
Benzo (a) anthracene	14.5	9.35	ug/L	46.7	BLOD	31.1	25-95	19.7	20	
Benzo (a) pyrene	16.3	0.20	ug/L	46.7	BLOD	34.9	25-82	24.5	20	P
Benzo (b) fluoranthene	20.6	10.0	ug/L	46.7	BLOD	44.2	25-75	22.3	20	P
Benzo (g,h,i) perylene	5.39	10.0	ug/L	46.7	BLOD	11.5	25-90	20.5	20	M, P
Benzo (k) fluoranthene	17.2	10.0	ug/L	46.7	BLOD	36.8	25-95	29.3	20	P
bis (2-Chloroethoxy) methane	26.8	10.0	ug/L	46.7	BLOD	57.3	25-85	10.7	20	
bis (2-Chloroethyl) ether	30.2	10.0	ug/L	46.7	BLOD	64.6	25-85	5.51	20	
2,2'-Oxybis (1-chloropropane)	34.1	10.0	ug/L	46.7	BLOD	73.0	25-87	4.63	20	
bis (2-Ethylhexyl) phthalate	16.6	5.00	ug/L	46.7	BLOD	35.6	30-125	20.6	20	P
Butyl benzyl phthalate	20.8	10.0	ug/L	46.7	BLOD	44.6	30-115	17.5	20	
Carbazole	34.4	2.50	ug/L	46.7	BLOD	73.7	0-200	16.2	20	
Chrysene	18.2	10.0	ug/L	46.7	BLOD	38.9	20-90	19.5	20	
Dibenz (a,h) anthracene	7.35	10.0	ug/L	46.7	BLOD	15.7	27-125	22.0	20	M, P
Diethyl phthalate	27.6	10.0	ug/L	46.7	BLOD	59.1	25-120	14.9	20	
Dimethyl phthalate	28.9	10.0	ug/L	46.7	BLOD	61.9	25-125	14.3	20	
Di-n-butyl phthalate	23.1	10.0	ug/L	46.7	BLOD	49.4	25-115	19.4	20	
Di-n-octyl phthalate	24.6	10.0	ug/L	46.7	BLOD	52.6	22-105	27.3	20	P
Fluoranthene	21.6	10.0	ug/L	46.7	BLOD	46.3	25-96	20.9	20	P
Fluorene	30.6	10.0	ug/L	46.7	BLOD	65.5	15-97	14.4	20	
Hexachlorobenzene	18.3	0.93	ug/L	46.7	BLOD	39.2	25-125	14.9	20	
Hexachlorobutadiene	21.1	10.0	ug/L	46.7	BLOD	45.1	25-125	11.3	20	
Hexachlorocyclopentadiene	14.2	10.0	ug/L	46.7	BLOD	30.4	10-90	8.32	20	

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Enthalpy Analytical

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### Batch BFJ0881 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ0881-MSD2)	Source: 22J1102-01			Prepared & Analyzed: 10/24/2022						
Hexachloroethane	21.0	10.0	ug/L	46.7	BLOD	44.9	25-125	4.18	20	
Indeno (1,2,3-cd) pyrene	7.67	10.0	ug/L	46.7	BLOD	16.4	25-125	16.2	20	M
Isophorone	18.8	10.0	ug/L	46.7	BLOD	40.3	10-110	8.19	20	
Naphthalene	33.5	0.10	ug/L	46.7	0.56	70.5	12-100	8.29	20	
Nitrobenzene	33.7	10.0	ug/L	46.7	BLOD	72.2	27-77	0.166	20	
n-Nitrosodimethylamine	22.2	10.0	ug/L	46.7	BLOD	47.4	10-85	5.68	20	
n-Nitrosodi-n-propylamine	30.2	10.0	ug/L	46.7	BLOD	64.6	12-97	9.36	20	
n-Nitrosodiphenylamine	26.1	10.0	ug/L	46.7	BLOD	55.8	12-97	13.9	20	
p-Chloro-m-cresol	28.2	10.0	ug/L	46.7	BLOD	60.4	10-91	4.75	20	
Pentachlorophenol	42.7	20.0	ug/L	46.7	BLOD	91.3	27-109	14.8	20	
Phenanthrene	36.5	10.0	ug/L	46.7	BLOD	78.0	35-115	22.7	20	P
Phenol	16.7	10.0	ug/L	47.2	2.76	29.6	10-70	9.33	20	
Pyrene	24.2	10.0	ug/L	46.7	BLOD	51.8	23-110	14.5	20	
Pyridine	21.6	10.0	ug/L	46.7	BLOD	46.3	0-200	3.98	20	
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	63.4		ug/L	93.5		67.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	30.2		ug/L	46.7		64.6	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	31.6		ug/L	93.5		33.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	32.8		ug/L	46.7		70.2	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	24.9		ug/L	93.5		26.6	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	9.13		ug/L	46.7		19.5	27-133			S

### Batch BFJ1037 - SW3510C/EPA600-MS

Blank (BFJ1037-BLK1)	Prepared & Analyzed: 10/27/2022									
4-Aminobiphenyl	ND	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	ND	5.00	ug/L							

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Enthalpy Analytical

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### Batch BFJ1037 - SW3510C/EPA600-MS

**Blank (BFJ1037-BLK1)**

Prepared & Analyzed: 10/27/2022

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>	96.9		ug/L	100		96.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	36.7		ug/L	50.0		73.5	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	65.8		ug/L	100		65.8	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	29.6		ug/L	50.0		59.2	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	61.3		ug/L	100		61.3	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	35.1		ug/L	50.0		70.1	27-133			

**LCS (BFJ1037-BS1)**

Prepared & Analyzed: 10/27/2022

1,2,4-Trichlorobenzene	38.6	10.0	ug/L	50.0		77.1	22-135			
1,2-Dichlorobenzene	33.8	10.0	ug/L	50.0		67.7	22-115			
1,3-Dichlorobenzene	32.1	10.0	ug/L	50.0		64.1	22-112			
1,4-Dichlorobenzene	36.0	10.0	ug/L	50.0		72.1	13-112			
2,4,6-Trichlorophenol	36.1	10.0	ug/L	50.0		72.1	11-145			
2,4-Dichlorophenol	37.1	10.0	ug/L	50.0		74.2	11-75			
2,4-Dimethylphenol	36.6	5.00	ug/L	50.0		73.1	11-121			
2,4-Dinitrophenol	42.7	50.0	ug/L	50.0		85.4	11-165			
2,4-Dinitrotoluene	36.6	10.0	ug/L	50.0		73.2	17-155			
2,6-Dinitrotoluene	35.6	10.0	ug/L	50.0		71.2	15-125			
2-Chloronaphthalene	32.3	10.0	ug/L	50.0		64.6	27-89			
2-Chlorophenol	29.5	10.0	ug/L	50.0		58.9	15-110			
2-Nitrophenol	38.6	10.0	ug/L	50.0		77.1	11-115			

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**Batch BFJ1037 - SW3510C/EPA600-MS**

**LCS (BFJ1037-BS1)**

Prepared & Analyzed: 10/27/2022

3,3'-Dichlorobenzidine	19.6	10.0	ug/L	50.0		39.2	25-95			
4,6-Dinitro-2-methylphenol	39.8	50.0	ug/L	50.0		79.5	25-130			
4-Bromophenyl phenyl ether	37.7	10.0	ug/L	50.0		75.4	15-110			
4-Chlorophenyl phenyl ether	31.2	10.0	ug/L	50.0		62.4	15-110			
4-Nitrophenol	32.4	50.0	ug/L	50.0		64.8	12-70			
Acenaphthene	35.0	10.0	ug/L	50.0		70.1	18-85			
Acenaphthylene	33.0	10.0	ug/L	50.0		66.0	20-75			
Acetophenone	29.6	20.0	ug/L	50.0		59.2	0-200			
alpha-Terpineol	38.5	2.50	ug/L	50.0		77.0	0-200			
Anthracene	33.1	10.0	ug/L	50.0		66.1	35-95			
Benzo (a) anthracene	39.2	10.0	ug/L	50.0		78.3	25-95			
Benzo (a) pyrene	43.8	0.20	ug/L	50.0		87.6	37-110			
Benzo (b) fluoranthene	40.7	10.0	ug/L	50.0		81.4	25-75			L
Benzo (g,h,i) perylene	34.6	10.0	ug/L	50.0		69.3	25-90			
Benzo (k) fluoranthene	43.4	10.0	ug/L	50.0		86.7	25-95			
bis (2-Chloroethoxy) methane	30.3	10.0	ug/L	50.0		60.5	25-110			
bis (2-Chloroethyl) ether	22.0	10.0	ug/L	50.0		44.0	25-85			
2,2'-Oxybis (1-chloropropane)	30.1	10.0	ug/L	50.0		60.2	25-95			
bis (2-Ethylhexyl) phthalate	47.5	5.00	ug/L	50.0		95.0	30-125			
Butyl benzyl phthalate	42.4	10.0	ug/L	50.0		84.7	30-115			
Carbazole	40.0	2.50	ug/L	50.0		80.0	0-200			
Chrysene	41.3	10.0	ug/L	50.0		82.6	20-90			
Dibenz (a,h) anthracene	44.1	10.0	ug/L	50.0		88.2	27-125			
Diethyl phthalate	38.1	10.0	ug/L	50.0		76.1	25-120			
Dimethyl phthalate	34.2	10.0	ug/L	50.0		68.4	25-125			



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### Batch BFJ1037 - SW3510C/EPA600-MS

**LCS (BFJ1037-BS1)**

Prepared & Analyzed: 10/27/2022

Di-n-butyl phthalate	53.5	10.0	ug/L	50.0		107	35-115			
Di-n-octyl phthalate	46.7	10.0	ug/L	50.0		93.5	25-105			
Fluoranthene	43.6	10.0	ug/L	50.0		87.1	33-95			
Fluorene	33.2	10.0	ug/L	50.0		66.4	15-97			
Hexachlorobenzene	41.2	1.00	ug/L	50.0		82.5	25-125			
Hexachlorobutadiene	47.7	10.0	ug/L	50.0		95.3	25-125			
Hexachlorocyclopentadiene	42.6	10.0	ug/L	50.0		85.2	25-125			
Hexachloroethane	33.8	10.0	ug/L	50.0		67.6	25-125			
Indeno (1,2,3-cd) pyrene	44.9	10.0	ug/L	50.0		89.8	25-125			
Isophorone	19.0	10.0	ug/L	50.0		38.0	10-110			
Naphthalene	36.4	0.10	ug/L	50.0		72.7	12-100			
Nitrobenzene	29.0	10.0	ug/L	50.0		58.0	30-97			
n-Nitrosodimethylamine	20.8	10.0	ug/L	50.0		41.6	10-85			
n-Nitrosodi-n-propylamine	28.0	10.0	ug/L	50.0		56.0	12-97			
n-Nitrosodiphenylamine	23.9	10.0	ug/L	50.0		47.8	12-97			
p-Chloro-m-cresol	38.1	10.0	ug/L	50.0		76.1	10-91			
Pentachlorophenol	43.4	20.0	ug/L	50.0		86.9	30-109			
Phenanthrene	40.0	10.0	ug/L	50.0		79.9	30-88			
Phenol	26.6	10.0	ug/L	50.5		52.7	10-70			
Pyrene	41.0	10.0	ug/L	50.0		82.0	27-110			
Pyridine	19.4	10.0	ug/L	50.0		38.8	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>98.8</i>		ug/L	<i>100</i>		<i>98.8</i>	<i>10-86</i>			<i>S</i>
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>34.3</i>		ug/L	<i>50.0</i>		<i>68.6</i>	<i>9-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>63.0</i>		ug/L	<i>100</i>		<i>63.0</i>	<i>10-52</i>			<i>S</i>
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>29.6</i>		ug/L	<i>50.0</i>		<i>59.2</i>	<i>10-98.5</i>			

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**Batch BFJ1037 - SW3510C/EPA600-MS**

**LCS (BFJ1037-BS1)**

Prepared & Analyzed: 10/27/2022

<i>Surr: Phenol-d5 (Surr)</i>	63.6		ug/L	100		63.6	5-33			S
<i>Surr: p-Terphenyl-d14 (Surr)</i>	40.9		ug/L	50.0		81.9	27-133			

**Matrix Spike (BFJ1037-MS1)**

**Source: 22J1082-05**

Prepared & Analyzed: 10/27/2022

1,2,4-Trichlorobenzene	31.5	10.0	ug/L	100	BLOD	31.5	22-65			
1,2-Dichlorobenzene	28.5	10.0	ug/L	100	BLOD	28.5	22-60			
1,3-Dichlorobenzene	26.9	10.0	ug/L	100	BLOD	26.9	22-60			
1,4-Dichlorobenzene	28.3	10.0	ug/L	100	BLOD	28.3	13-60			
2,4,6-Trichlorophenol	37.4	10.0	ug/L	100	BLOD	37.4	11-75			
2,4-Dichlorophenol	33.4	10.0	ug/L	100	BLOD	33.4	11-75			
2,4-Dimethylphenol	33.1	5.00	ug/L	100	BLOD	33.1	11-65			
2,4-Dinitrophenol	86.9	50.0	ug/L	100	BLOD	86.9	11-110			
2,4-Dinitrotoluene	64.4	10.0	ug/L	100	BLOD	64.4	17-95			
2,6-Dinitrotoluene	49.6	10.0	ug/L	100	BLOD	49.6	15-125			
2-Chloronaphthalene	36.2	10.0	ug/L	100	BLOD	36.2	27-89			
2-Chlorophenol	31.3	10.0	ug/L	100	BLOD	31.3	19-64			
2-Nitrophenol	36.0	10.0	ug/L	100	BLOD	36.0	11-75			
3,3'-Dichlorobenzidine	44.1	10.0	ug/L	100	BLOD	44.1	10-85			
4,6-Dinitro-2-methylphenol	82.0	50.0	ug/L	100	BLOD	82.0	40-130			
4-Bromophenyl phenyl ether	47.0	10.0	ug/L	100	BLOD	47.0	15-110			
4-Chlorophenyl phenyl ether	38.0	10.0	ug/L	100	BLOD	38.0	15-110			
4-Nitrophenol	31.0	50.0	ug/L	100	BLOD	31.0	12-70			
Acenaphthene	39.6	10.0	ug/L	100	BLOD	39.6	15-90			
Acenaphthylene	40.0	10.0	ug/L	100	BLOD	40.0	15-99			
Acetophenone	31.4	20.0	ug/L	100	BLOD	31.4	0-200			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike (BFJ1037-MS1)	Source: 22J1082-05			Prepared & Analyzed: 10/27/2022						
alpha-Terpineol	35.4	2.50	ug/L	100	BLOD	35.4	0-200			
Anthracene	67.8	10.0	ug/L	100	BLOD	67.8	20-95			
Benzo (a) anthracene	67.5	10.0	ug/L	100	BLOD	67.5	25-95			
Benzo (a) pyrene	79.9	0.20	ug/L	100	BLOD	79.9	25-82			
Benzo (b) fluoranthene	71.8	10.0	ug/L	100	BLOD	71.8	25-75			
Benzo (g,h,i) perylene	69.7	10.0	ug/L	100	BLOD	69.7	25-90			
Benzo (k) fluoranthene	95.1	10.0	ug/L	100	BLOD	95.1	25-95			M
bis (2-Chloroethoxy) methane	31.8	10.0	ug/L	100	BLOD	31.8	25-85			
bis (2-Chloroethyl) ether	32.4	10.0	ug/L	100	BLOD	32.4	25-85			
2,2'-Oxybis (1-chloropropane)	33.2	10.0	ug/L	100	BLOD	33.2	25-87			
bis (2-Ethylhexyl) phthalate	68.1	5.00	ug/L	100	BLOD	68.1	30-125			
Butyl benzyl phthalate	70.7	10.0	ug/L	100	BLOD	70.7	30-115			
Carbazole	90.7	2.50	ug/L	100	BLOD	90.7	0-200			
Chrysene	74.8	10.0	ug/L	100	BLOD	74.8	20-90			
Dibenz (a,h) anthracene	80.3	10.0	ug/L	100	BLOD	80.3	27-125			
Diethyl phthalate	61.4	10.0	ug/L	100	BLOD	61.4	25-120			
Dimethyl phthalate	54.1	10.0	ug/L	100	BLOD	54.1	25-125			
Di-n-butyl phthalate	43.1	10.0	ug/L	100	BLOD	43.1	25-115			
Di-n-octyl phthalate	63.8	10.0	ug/L	100	BLOD	63.8	22-105			
Fluoranthene	47.9	10.0	ug/L	100	BLOD	47.9	25-96			
Fluorene	46.7	10.0	ug/L	100	BLOD	46.7	15-97			
Hexachlorobenzene	63.5	1.00	ug/L	100	BLOD	63.5	25-125			
Hexachlorobutadiene	30.8	10.0	ug/L	100	BLOD	30.8	25-125			
Hexachlorocyclopentadiene	27.7	10.0	ug/L	100	BLOD	27.7	10-90			
Hexachloroethane	25.9	10.0	ug/L	100	BLOD	25.9	25-125			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

**Matrix Spike (BFJ1037-MS1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/27/2022

Indeno (1,2,3-cd) pyrene	76.2	10.0	ug/L	100	BLOD	76.2	25-125			
Isophorone	21.8	10.0	ug/L	100	BLOD	21.8	10-110			
Naphthalene	34.1	0.10	ug/L	100	BLOD	34.1	12-100			
Nitrobenzene	32.2	10.0	ug/L	100	BLOD	32.2	27-77			
n-Nitrosodimethylamine	23.4	10.0	ug/L	100	BLOD	23.4	10-85			
n-Nitrosodi-n-propylamine	32.9	10.0	ug/L	100	BLOD	32.9	12-97			
n-Nitrosodiphenylamine	40.8	10.0	ug/L	100	BLOD	40.8	12-97			
p-Chloro-m-cresol	37.6	10.0	ug/L	100	BLOD	37.6	10-91			
Pentachlorophenol	75.5	20.0	ug/L	100	BLOD	75.5	27-109			
Phenanthrene	77.0	10.0	ug/L	100	BLOD	77.0	35-115			
Phenol	12.2	10.0	ug/L	101	BLOD	12.1	10-70			
Pyrene	69.2	10.0	ug/L	100	BLOD	69.2	23-110			
Pyridine	33.5	10.0	ug/L	100	BLOD	33.5	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	109		ug/L	200		54.7	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	37.1		ug/L	100		37.1	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	41.7		ug/L	200		20.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	32.6		ug/L	100		32.6	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	28.1		ug/L	200		14.1	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	69.9		ug/L	100		69.9	27-133			

**Matrix Spike (BFJ1037-MS2)**

Source: 22J1119-01

Prepared &amp; Analyzed: 10/27/2022

1,2,4-Trichlorobenzene	28.5	10.0	ug/L	48.5	BLOD	58.7	22-65			
1,2-Dichlorobenzene	25.1	10.0	ug/L	48.5	BLOD	51.7	22-60			
1,3-Dichlorobenzene	24.4	10.0	ug/L	48.5	BLOD	50.2	22-60			
1,4-Dichlorobenzene	25.3	10.0	ug/L	48.5	BLOD	52.2	13-60			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike (BFJ1037-MS2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
2,4,6-Trichlorophenol	33.9	10.0	ug/L	48.5	BLOD	69.8	11-75			
2,4-Dichlorophenol	30.0	10.0	ug/L	48.5	BLOD	61.8	11-75			
2,4-Dimethylphenol	30.4	4.85	ug/L	48.5	BLOD	62.6	11-65			
2,4-Dinitrophenol	59.0	50.0	ug/L	48.5	BLOD	121	11-110			M
2,4-Dinitrotoluene	40.0	10.0	ug/L	48.5	BLOD	82.5	17-95			
2,6-Dinitrotoluene	36.5	10.0	ug/L	48.5	BLOD	75.3	15-125			
2-Chloronaphthalene	31.8	10.0	ug/L	48.5	BLOD	65.4	27-89			
2-Chlorophenol	27.3	10.0	ug/L	48.5	BLOD	56.1	19-64			
2-Nitrophenol	31.7	10.0	ug/L	48.5	BLOD	65.4	11-75			
3,3'-Dichlorobenzidine	6.26	10.0	ug/L	48.5	BLOD	12.9	10-85			
4,6-Dinitro-2-methylphenol	48.8	50.0	ug/L	48.5	BLOD	101	40-130			
4-Bromophenyl phenyl ether	33.5	10.0	ug/L	48.5	BLOD	69.0	15-110			
4-Chlorophenyl phenyl ether	30.4	10.0	ug/L	48.5	BLOD	62.7	15-110			
4-Nitrophenol	15.6	50.0	ug/L	48.5	BLOD	32.1	12-70			
Acenaphthene	33.5	10.0	ug/L	48.5	BLOD	69.1	15-90			
Acenaphthylene	34.2	10.0	ug/L	48.5	BLOD	70.4	15-99			
Acetophenone	27.0	20.0	ug/L	48.5	BLOD	55.5	0-200			
alpha-Terpineol	32.4	2.50	ug/L	48.5	BLOD	66.7	0-200			
Anthracene	41.0	10.0	ug/L	48.5	BLOD	84.5	20-95			
Benzo (a) anthracene	34.6	9.71	ug/L	48.5	BLOD	71.4	25-95			
Benzo (a) pyrene	45.3	0.20	ug/L	48.5	BLOD	93.3	25-82			M
Benzo (b) fluoranthene	46.0	10.0	ug/L	48.5	BLOD	94.8	25-75			M
Benzo (g,h,i) perylene	33.8	10.0	ug/L	48.5	BLOD	69.6	25-90			
Benzo (k) fluoranthene	48.4	10.0	ug/L	48.5	BLOD	99.7	25-95			M
bis (2-Chloroethoxy) methane	28.0	10.0	ug/L	48.5	BLOD	57.8	25-85			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike (BFJ1037-MS2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
bis (2-Chloroethyl) ether	26.9	10.0	ug/L	48.5	BLOD	55.5	25-85			
2,2'-Oxybis (1-chloropropane)	28.8	10.0	ug/L	48.5	BLOD	59.3	25-87			
bis (2-Ethylhexyl) phthalate	43.1	5.00	ug/L	48.5	BLOD	88.8	30-125			
Butyl benzyl phthalate	39.5	10.0	ug/L	48.5	BLOD	81.4	30-115			
Carbazole	41.8	2.50	ug/L	48.5	BLOD	86.2	0-200			
Chrysene	44.0	10.0	ug/L	48.5	BLOD	90.7	20-90			M
Dibenz (a,h) anthracene	39.0	10.0	ug/L	48.5	BLOD	80.3	27-125			
Diethyl phthalate	39.2	10.0	ug/L	48.5	BLOD	80.8	25-120			
Dimethyl phthalate	40.3	10.0	ug/L	48.5	BLOD	83.0	25-125			
Di-n-butyl phthalate	42.5	10.0	ug/L	48.5	BLOD	87.5	25-115			
Di-n-octyl phthalate	59.9	10.0	ug/L	48.5	BLOD	123	22-105			M
Fluoranthene	40.4	10.0	ug/L	48.5	BLOD	83.3	25-96			
Fluorene	35.4	10.0	ug/L	48.5	BLOD	73.0	15-97			
Hexachlorobenzene	40.6	0.97	ug/L	48.5	BLOD	83.7	25-125			
Hexachlorobutadiene	29.2	10.0	ug/L	48.5	BLOD	60.1	25-125			
Hexachlorocyclopentadiene	24.6	10.0	ug/L	48.5	BLOD	50.6	10-90			
Hexachloroethane	23.8	10.0	ug/L	48.5	BLOD	49.1	25-125			
Indeno (1,2,3-cd) pyrene	37.0	10.0	ug/L	48.5	BLOD	76.1	25-125			
Isophorone	18.4	10.0	ug/L	48.5	BLOD	37.9	10-110			
Naphthalene	30.5	0.10	ug/L	48.5	BLOD	62.8	12-100			
Nitrobenzene	27.5	10.0	ug/L	48.5	BLOD	56.7	27-77			
n-Nitrosodimethylamine	19.1	10.0	ug/L	48.5	BLOD	39.4	10-85			
n-Nitrosodi-n-propylamine	27.7	10.0	ug/L	48.5	BLOD	57.1	12-97			
n-Nitrosodiphenylamine	29.2	10.0	ug/L	48.5	BLOD	60.1	12-97			
p-Chloro-m-cresol	33.5	10.0	ug/L	48.5	BLOD	69.0	10-91			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike (BFJ1037-MS2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
Pentachlorophenol	51.2	20.0	ug/L	48.5	BLOD	105	27-109			
Phenanthrene	46.6	10.0	ug/L	48.5	BLOD	96.0	35-115			
Phenol	8.91	10.0	ug/L	49.0	BLOD	18.2	10-70			
Pyrene	45.2	10.0	ug/L	48.5	BLOD	93.2	23-110			
Pyridine	26.8	10.0	ug/L	48.5	BLOD	55.2	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	82.4		ug/L	97.1		84.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	33.6		ug/L	48.5		69.1	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	36.9		ug/L	97.1		38.0	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	28.3		ug/L	48.5		58.4	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	21.3		ug/L	97.1		22.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	46.1		ug/L	48.5		95.0	27-133			
Matrix Spike (BFJ1037-MS3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
1,2,4-Trichlorobenzene	23.8	10.0	ug/L	46.7	BLOD	50.9	22-65			
1,2-Dichlorobenzene	21.9	10.0	ug/L	46.7	BLOD	46.9	22-60			
1,3-Dichlorobenzene	21.1	10.0	ug/L	46.7	BLOD	45.1	22-60			
1,4-Dichlorobenzene	21.6	10.0	ug/L	46.7	BLOD	46.3	13-60			
1,4-Dioxane	ND	50.0	ug/L		BLOD		0-200			
2,4,6-Trichlorophenol	27.1	10.0	ug/L	46.7	BLOD	58.0	11-75			
2,4-Dichlorophenol	24.6	10.0	ug/L	46.7	BLOD	52.7	11-75			
2,4-Dimethylphenol	24.8	4.67	ug/L	46.7	BLOD	53.0	11-65			
2,4-Dinitrophenol	55.5	50.0	ug/L	46.7	BLOD	119	11-110			M
2,4-Dinitrotoluene	37.5	10.0	ug/L	46.7	BLOD	80.3	17-95			
2,6-Dinitrotoluene	31.9	10.0	ug/L	46.7	BLOD	68.3	15-125			
2-Chloronaphthalene	24.3	10.0	ug/L	46.7	BLOD	52.0	27-89			



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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike (BFJ1037-MS3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
2-Chlorophenol	24.1	10.0	ug/L	46.7	BLOD	51.5	19-64			
2-Nitrophenol	27.7	10.0	ug/L	46.7	BLOD	59.3	11-75			
3,3'-Dichlorobenzidine	ND	10.0	ug/L	46.7	BLOD		10-85			M
4,6-Dinitro-2-methylphenol	48.0	50.0	ug/L	46.7	BLOD	103	40-130			
4-Bromophenyl phenyl ether	29.9	10.0	ug/L	46.7	BLOD	63.9	15-110			
4-Chlorophenyl phenyl ether	25.3	10.0	ug/L	46.7	BLOD	54.1	15-110			
4-Nitrophenol	15.0	50.0	ug/L	46.7	BLOD	32.1	12-70			
Acenaphthene	24.9	10.0	ug/L	46.7	BLOD	53.4	15-90			
Acenaphthylene	25.9	10.0	ug/L	46.7	BLOD	55.5	15-99			
Acetophenone	24.1	20.0	ug/L	46.7	BLOD	51.5	0-200			
alpha-Terpineol	25.8	2.50	ug/L	46.7	BLOD	55.2	0-200			
Anthracene	38.5	10.0	ug/L	46.7	BLOD	82.5	20-95			
Benzo (a) anthracene	30.9	9.35	ug/L	46.7	BLOD	66.2	25-95			
Benzo (a) pyrene	40.5	0.20	ug/L	46.7	BLOD	86.7	25-82			M
Benzo (b) fluoranthene	46.2	10.0	ug/L	46.7	BLOD	98.8	25-75			M
Benzo (g,h,i) perylene	31.8	10.0	ug/L	46.7	BLOD	68.0	25-90			
Benzo (k) fluoranthene	35.6	10.0	ug/L	46.7	BLOD	76.2	25-95			
bis (2-Chloroethoxy) methane	23.5	10.0	ug/L	46.7	BLOD	50.2	25-85			
bis (2-Chloroethyl) ether	22.9	10.0	ug/L	46.7	BLOD	49.0	25-85			
2,2'-Oxybis (1-chloropropane)	24.9	10.0	ug/L	46.7	BLOD	53.2	25-87			
bis (2-Ethylhexyl) phthalate	37.5	5.00	ug/L	46.7	BLOD	80.2	30-125			
Butyl benzyl phthalate	35.6	10.0	ug/L	46.7	BLOD	76.1	30-115			
Carbazole	40.2	2.50	ug/L	46.7	BLOD	86.1	0-200			
Chrysene	39.1	10.0	ug/L	46.7	BLOD	83.7	20-90			
Dibenz (a,h) anthracene	36.4	10.0	ug/L	46.7	BLOD	77.9	27-125			

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Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike (BFJ1037-MS3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
Diethyl phthalate	35.3	10.0	ug/L	46.7	BLOD	75.5	25-120			
Dimethyl phthalate	34.3	10.0	ug/L	46.7	BLOD	73.3	25-125			
Di-n-butyl phthalate	36.7	10.0	ug/L	46.7	BLOD	78.5	25-115			
Di-n-octyl phthalate	44.1	10.0	ug/L	46.7	BLOD	94.4	22-105			
Fluoranthene	39.8	10.0	ug/L	46.7	BLOD	85.1	25-96			
Fluorene	28.7	10.0	ug/L	46.7	BLOD	61.5	15-97			
Hexachlorobenzene	36.0	0.93	ug/L	46.7	BLOD	77.1	25-125			
Hexachlorobutadiene	24.6	10.0	ug/L	46.7	BLOD	52.6	25-125			
Hexachlorocyclopentadiene	20.5	10.0	ug/L	46.7	BLOD	43.8	10-90			
Hexachloroethane	21.0	10.0	ug/L	46.7	BLOD	44.9	25-125			
Indeno (1,2,3-cd) pyrene	35.7	10.0	ug/L	46.7	BLOD	76.5	25-125			
Isophorone	14.3	10.0	ug/L	46.7	BLOD	30.5	10-110			
Naphthalene	25.9	0.10	ug/L	46.7	BLOD	55.4	12-100			
Nitrobenzene	24.3	10.0	ug/L	46.7	BLOD	52.0	27-77			
n-Nitrosodimethylamine	17.8	10.0	ug/L	46.7	BLOD	38.1	10-85			
n-Nitrosodi-n-propylamine	24.3	10.0	ug/L	46.7	BLOD	52.0	12-97			
n-Nitrosodiphenylamine	27.0	10.0	ug/L	46.7	BLOD	57.8	12-97			
p-Chloro-m-cresol	27.6	10.0	ug/L	46.7	BLOD	59.2	10-91			
Pentachlorophenol	51.2	20.0	ug/L	46.7	BLOD	110	27-109			M
Phenanthrene	42.8	10.0	ug/L	46.7	BLOD	91.5	35-115			
Phenol	7.90	10.0	ug/L	47.2	BLOD	16.7	10-70			
Pyrene	38.2	10.0	ug/L	46.7	BLOD	81.7	23-110			
Pyridine	24.8	10.0	ug/L	46.7	BLOD	53.0	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	78.8		ug/L	93.5		84.3	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	26.3		ug/L	46.7		56.3	9-87			

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

**Matrix Spike (BFJ1037-MS3)**

Source: 22J1229-03

Prepared &amp; Analyzed: 10/27/2022

<i>Surr: 2-Fluorophenol (Surr)</i>	32.9		ug/L	93.5		35.2	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	26.0		ug/L	46.7		55.7	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	19.4		ug/L	93.5		20.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	35.2		ug/L	46.7		75.4	27-133			

**Matrix Spike Dup (BFJ1037-MSD1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/27/2022

1,2,4-Trichlorobenzene	26.1	10.0	ug/L	100	BLOD	26.1	22-65	18.8	20	
1,2-Dichlorobenzene	28.2	10.0	ug/L	100	BLOD	28.2	22-60	1.16	20	
1,3-Dichlorobenzene	26.6	10.0	ug/L	100	BLOD	26.6	22-60	1.27	20	
1,4-Dichlorobenzene	22.2	10.0	ug/L	100	BLOD	22.2	13-60	24.0	20	P
2,4,6-Trichlorophenol	29.1	10.0	ug/L	100	BLOD	29.1	11-75	24.9	20	P
2,4-Dichlorophenol	28.7	10.0	ug/L	100	BLOD	28.7	11-75	15.1	20	
2,4-Dimethylphenol	28.2	5.00	ug/L	100	BLOD	28.2	11-65	15.9	20	
2,4-Dinitrophenol	68.6	50.0	ug/L	100	BLOD	68.6	11-110	23.6	20	P
2,4-Dinitrotoluene	50.9	10.0	ug/L	100	BLOD	50.9	17-95	23.4	20	P
2,6-Dinitrotoluene	36.6	10.0	ug/L	100	BLOD	36.6	15-125	30.1	20	P
2-Chloronaphthalene	28.8	10.0	ug/L	100	BLOD	28.8	27-89	22.9	20	P
2-Chlorophenol	26.3	10.0	ug/L	100	BLOD	26.3	19-64	17.5	20	
2-Nitrophenol	30.7	10.0	ug/L	100	BLOD	30.7	11-75	15.8	20	
3,3'-Dichlorobenzidine	37.0	10.0	ug/L	100	BLOD	37.0	10-85	17.5	20	
4,6-Dinitro-2-methylphenol	66.7	50.0	ug/L	100	BLOD	66.7	40-130	20.6	20	P
4-Bromophenyl phenyl ether	34.6	10.0	ug/L	100	BLOD	34.6	15-110	30.3	20	P
4-Chlorophenyl phenyl ether	27.7	10.0	ug/L	100	BLOD	27.7	15-110	31.4	20	P
4-Nitrophenol	23.5	50.0	ug/L	100	BLOD	23.5	12-70	27.7	20	P
Acenaphthene	29.0	10.0	ug/L	100	BLOD	29.0	15-90	30.7	20	P

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFJ1037-MSD1)	Source: 22J1082-05			Prepared & Analyzed: 10/27/2022						
Acenaphthylene	30.6	10.0	ug/L	100	BLOD	30.6	15-99	26.7	20	P
Acetophenone	27.0	20.0	ug/L	100	BLOD	27.0	0-200	15.1	20	
alpha-Terpineol	30.2	2.50	ug/L	100	BLOD	30.2	0-200	15.9	20	
Anthracene	51.1	10.0	ug/L	100	BLOD	51.1	20-95	28.0	20	P
Benzo (a) anthracene	46.1	10.0	ug/L	100	BLOD	46.1	25-95	37.7	20	P
Benzo (a) pyrene	64.1	0.20	ug/L	100	BLOD	64.1	25-82	22.0	20	P
Benzo (b) fluoranthene	63.0	10.0	ug/L	100	BLOD	63.0	25-75	13.1	20	
Benzo (g,h,i) perylene	52.0	10.0	ug/L	100	BLOD	52.0	25-90	29.1	20	P
Benzo (k) fluoranthene	64.5	10.0	ug/L	100	BLOD	64.5	25-95	38.3	20	P
bis (2-Chloroethoxy) methane	26.2	10.0	ug/L	100	BLOD	26.2	25-85	19.2	20	
bis (2-Chloroethyl) ether	25.0	10.0	ug/L	100	BLOD	25.0	25-85	25.8	20	P
2,2'-Oxybis (1-chloropropane)	27.0	10.0	ug/L	100	BLOD	27.0	25-87	20.4	20	P
bis (2-Ethylhexyl) phthalate	55.8	5.00	ug/L	100	BLOD	55.8	30-125	19.9	20	
Butyl benzyl phthalate	56.2	10.0	ug/L	100	BLOD	56.2	30-115	22.8	20	P
Carbazole	65.3	2.50	ug/L	100	BLOD	65.3	0-200	32.6	20	P
Chrysene	60.0	10.0	ug/L	100	BLOD	60.0	20-90	22.0	20	P
Dibenz (a,h) anthracene	60.0	10.0	ug/L	100	BLOD	60.0	27-125	29.0	20	P
Diethyl phthalate	45.8	10.0	ug/L	100	BLOD	45.8	25-120	29.1	20	P
Dimethyl phthalate	39.1	10.0	ug/L	100	BLOD	39.1	25-125	32.3	20	P
Di-n-butyl phthalate	42.0	10.0	ug/L	100	BLOD	42.0	25-115	2.77	20	
Di-n-octyl phthalate	70.7	10.0	ug/L	100	BLOD	70.7	22-105	10.2	20	
Fluoranthene	56.5	10.0	ug/L	100	BLOD	56.5	25-96	16.5	20	
Fluorene	32.9	10.0	ug/L	100	BLOD	32.9	15-97	34.8	20	P
Hexachlorobenzene	50.3	1.00	ug/L	100	BLOD	50.3	25-125	23.2	20	P
Hexachlorobutadiene	26.5	10.0	ug/L	100	BLOD	26.5	25-125	14.8	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ1037-MSD1)	Source: 22J1082-05			Prepared & Analyzed: 10/27/2022						
Hexachlorocyclopentadiene	23.1	10.0	ug/L	100	BLOD	23.1	10-90	18.1	20	
Hexachloroethane	21.0	10.0	ug/L	100	BLOD	21.0	25-125	20.8	20	M, P
Indeno (1,2,3-cd) pyrene	57.5	10.0	ug/L	100	BLOD	57.5	25-125	27.9	20	P
Isophorone	17.4	10.0	ug/L	100	BLOD	17.4	10-110	22.2	20	P
Naphthalene	28.6	0.10	ug/L	100	BLOD	28.6	12-100	17.8	20	
Nitrobenzene	27.3	10.0	ug/L	100	BLOD	27.3	27-77	16.5	20	
n-Nitrosodimethylamine	21.0	10.0	ug/L	100	BLOD	21.0	10-85	10.8	20	
n-Nitrosodi-n-propylamine	27.2	10.0	ug/L	100	BLOD	27.2	12-97	19.0	20	
n-Nitrosodiphenylamine	30.5	10.0	ug/L	100	BLOD	30.5	12-97	28.9	20	P
p-Chloro-m-cresol	30.7	10.0	ug/L	100	BLOD	30.7	10-91	20.4	20	P
Pentachlorophenol	62.6	20.0	ug/L	100	BLOD	62.6	27-109	18.7	20	P
Phenanthrene	57.9	10.0	ug/L	100	BLOD	57.9	35-115	28.3	20	P
Phenol	10.1	10.0	ug/L	101	BLOD	10.0	10-70	18.9	20	
Pyrene	55.7	10.0	ug/L	100	BLOD	55.7	23-110	21.6	20	P
Pyridine	30.2	10.0	ug/L	100	BLOD	30.2	0-200	10.3	20	
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<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	85.5		ug/L	200		42.7	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	29.4		ug/L	100		29.4	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	35.4		ug/L	200		17.7	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	27.5		ug/L	100		27.5	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.2		ug/L	200		11.6	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	55.6		ug/L	100		55.6	27-133			
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Matrix Spike Dup (BFJ1037-MSD2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
1,2,4-Trichlorobenzene	28.3	10.0	ug/L	48.5	BLOD	58.2	22-65	0.787	20	
1,2-Dichlorobenzene	24.6	10.0	ug/L	48.5	BLOD	50.6	22-60	2.11	20	

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ1037-MSD2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
1,3-Dichlorobenzene	25.7	10.0	ug/L	48.5	BLOD	53.0	22-60	5.43	20	
1,4-Dichlorobenzene	18.1	10.0	ug/L	48.5	BLOD	37.3	13-60	33.2	20	P
2,4,6-Trichlorophenol	25.9	10.0	ug/L	48.5	BLOD	53.3	11-75	26.8	20	P
2,4-Dichlorophenol	21.7	10.0	ug/L	48.5	BLOD	44.7	11-75	32.0	20	P
2,4-Dimethylphenol	22.2	4.85	ug/L	48.5	BLOD	45.6	11-65	31.3	20	P
2,4-Dinitrophenol	53.2	50.0	ug/L	48.5	BLOD	110	11-110	10.3	20	
2,4-Dinitrotoluene	37.3	10.0	ug/L	48.5	BLOD	76.8	17-95	7.18	20	
2,6-Dinitrotoluene	31.6	10.0	ug/L	48.5	BLOD	65.2	15-125	14.4	20	
2-Chloronaphthalene	22.5	10.0	ug/L	48.5	BLOD	46.4	27-89	34.0	20	P
2-Chlorophenol	20.7	10.0	ug/L	48.5	BLOD	42.6	19-64	27.4	20	P
2-Nitrophenol	23.2	10.0	ug/L	48.5	BLOD	47.7	11-75	31.2	20	P
3,3'-Dichlorobenzidine	8.25	10.0	ug/L	48.5	BLOD	17.0	10-85	27.4	20	P
4,6-Dinitro-2-methylphenol	46.1	50.0	ug/L	48.5	BLOD	95.0	40-130	5.71	20	
4-Bromophenyl phenyl ether	29.2	10.0	ug/L	48.5	BLOD	60.2	15-110	13.5	20	
4-Chlorophenyl phenyl ether	25.0	10.0	ug/L	48.5	BLOD	51.6	15-110	19.4	20	
4-Nitrophenol	16.8	50.0	ug/L	48.5	BLOD	34.6	12-70	7.67	20	
Acenaphthene	24.3	10.0	ug/L	48.5	BLOD	50.2	15-90	31.7	20	P
Acenaphthylene	25.8	10.0	ug/L	48.5	BLOD	53.1	15-99	28.1	20	P
Acetophenone	20.7	20.0	ug/L	48.5	BLOD	42.7	0-200	26.0	20	P
alpha-Terpineol	23.4	2.50	ug/L	48.5	BLOD	48.2	0-200	32.3	20	P
Anthracene	37.9	10.0	ug/L	48.5	BLOD	78.1	20-95	7.80	20	
Benzo (a) anthracene	33.3	9.71	ug/L	48.5	BLOD	68.5	25-95	4.06	20	
Benzo (a) pyrene	42.8	0.20	ug/L	48.5	BLOD	88.2	25-82	5.62	20	M
Benzo (b) fluoranthene	43.0	10.0	ug/L	48.5	BLOD	88.5	25-75	6.81	20	M
Benzo (g,h,i) perylene	31.0	10.0	ug/L	48.5	BLOD	63.8	25-90	8.61	20	

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFJ1037-MSD2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
Benzo (k) fluoranthene	43.8	10.0	ug/L	48.5	BLOD	90.3	25-95	9.90	20	
bis (2-Chloroethoxy) methane	19.1	10.0	ug/L	48.5	BLOD	39.4	25-85	37.9	20	P
bis (2-Chloroethyl) ether	19.1	10.0	ug/L	48.5	BLOD	39.3	25-85	34.2	20	P
2,2'-Oxybis (1-chloropropane)	19.5	10.0	ug/L	48.5	BLOD	40.2	25-87	38.5	20	P
bis (2-Ethylhexyl) phthalate	41.2	5.00	ug/L	48.5	BLOD	84.9	30-125	4.40	20	
Butyl benzyl phthalate	37.4	10.0	ug/L	48.5	BLOD	77.0	30-115	5.48	20	
Carbazole	41.0	2.50	ug/L	48.5	BLOD	84.6	0-200	1.92	20	
Chrysene	42.2	10.0	ug/L	48.5	BLOD	86.9	20-90	4.30	20	
Dibenz (a,h) anthracene	35.7	10.0	ug/L	48.5	BLOD	73.5	27-125	8.79	20	
Diethyl phthalate	34.7	10.0	ug/L	48.5	BLOD	71.4	25-120	12.2	20	
Dimethyl phthalate	33.5	10.0	ug/L	48.5	BLOD	68.9	25-125	18.6	20	
Di-n-butyl phthalate	39.9	10.0	ug/L	48.5	BLOD	82.1	25-115	6.37	20	
Di-n-octyl phthalate	50.1	10.0	ug/L	48.5	BLOD	103	22-105	17.7	20	
Fluoranthene	40.0	10.0	ug/L	48.5	BLOD	82.5	25-96	1.04	20	
Fluorene	28.7	10.0	ug/L	48.5	BLOD	59.2	15-97	20.9	20	P
Hexachlorobenzene	35.8	0.97	ug/L	48.5	BLOD	73.8	25-125	12.5	20	
Hexachlorobutadiene	21.0	10.0	ug/L	48.5	BLOD	43.2	25-125	32.7	20	P
Hexachlorocyclopentadiene	17.2	10.0	ug/L	48.5	BLOD	35.3	10-90	35.5	20	P
Hexachloroethane	17.6	10.0	ug/L	48.5	BLOD	36.2	25-125	30.2	20	P
Indeno (1,2,3-cd) pyrene	33.9	10.0	ug/L	48.5	BLOD	69.9	25-125	8.60	20	
Isophorone	12.0	10.0	ug/L	48.5	BLOD	24.6	10-110	42.5	20	P
Naphthalene	22.0	0.10	ug/L	48.5	BLOD	45.3	12-100	32.3	20	P
Nitrobenzene	21.0	10.0	ug/L	48.5	BLOD	43.3	27-77	27.0	20	P
n-Nitrosodimethylamine	17.9	10.0	ug/L	48.5	BLOD	36.8	10-85	6.93	20	
n-Nitrosodi-n-propylamine	20.6	10.0	ug/L	48.5	BLOD	42.5	12-97	29.4	20	P



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Enthalpy Analytical

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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ1037-MSD2)	Source: 22J1119-01			Prepared & Analyzed: 10/27/2022						
n-Nitrosodiphenylamine	26.8	10.0	ug/L	48.5	BLOD	55.2	12-97	8.43	20	
p-Chloro-m-cresol	26.5	10.0	ug/L	48.5	BLOD	54.6	10-91	23.3	20	P
Pentachlorophenol	48.0	20.0	ug/L	48.5	BLOD	99.0	27-109	6.32	20	
Phenanthrene	42.5	10.0	ug/L	48.5	BLOD	87.5	35-115	9.22	20	
Phenol	6.50	10.0	ug/L	49.0	BLOD	13.3	10-70	31.2	20	P
Pyrene	40.9	10.0	ug/L	48.5	BLOD	84.2	23-110	10.2	20	
Pyridine	20.2	10.0	ug/L	48.5	BLOD	41.6	0-200	27.9	20	P
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	72.4		ug/L	97.1		74.6	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	22.7		ug/L	48.5		46.7	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	27.6		ug/L	97.1		28.4	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	20.8		ug/L	48.5		42.8	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	15.5		ug/L	97.1		16.0	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	39.1		ug/L	48.5		80.5	27-133			
Matrix Spike Dup (BFJ1037-MSD3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
1,2,4-Trichlorobenzene	26.4	10.0	ug/L	46.7	BLOD	56.4	22-65	10.3	20	
1,2-Dichlorobenzene	21.8	10.0	ug/L	46.7	BLOD	46.7	22-60	0.513	20	
1,3-Dichlorobenzene	20.7	10.0	ug/L	46.7	BLOD	44.4	22-60	1.65	20	
1,4-Dichlorobenzene	13.4	10.0	ug/L	46.7	BLOD	28.6	13-60	47.3	20	P
2,4,6-Trichlorophenol	16.9	10.0	ug/L	46.7	BLOD	36.3	11-75	46.1	20	P
2,4-Dichlorophenol	16.4	10.0	ug/L	46.7	BLOD	35.2	11-75	39.9	20	P
2,4-Dimethylphenol	16.8	4.67	ug/L	46.7	BLOD	36.0	11-65	38.3	20	P
2,4-Dinitrophenol	39.1	50.0	ug/L	46.7	BLOD	83.8	11-110	34.5	20	P
2,4-Dinitrotoluene	28.3	10.0	ug/L	46.7	BLOD	60.5	17-95	28.2	20	P
2,6-Dinitrotoluene	21.0	10.0	ug/L	46.7	BLOD	44.9	15-125	41.4	20	P

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Enthalpy Analytical

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**Batch BFJ1037 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFJ1037-MSD3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
2-Chloronaphthalene	14.6	10.0	ug/L	46.7	BLOD	31.2	27-89	50.0	20	P
2-Chlorophenol	16.5	10.0	ug/L	46.7	BLOD	35.3	19-64	37.4	20	P
2-Nitrophenol	18.1	10.0	ug/L	46.7	BLOD	38.7	11-75	42.0	20	P
4,6-Dinitro-2-methylphenol	36.4	50.0	ug/L	46.7	BLOD	77.8	40-130	27.5	20	P
4-Bromophenyl phenyl ether	20.4	10.0	ug/L	46.7	BLOD	43.7	15-110	37.7	20	P
4-Chlorophenyl phenyl ether	16.4	10.0	ug/L	46.7	BLOD	35.1	15-110	42.6	20	P
4-Nitrophenol	11.4	50.0	ug/L	46.7	BLOD	24.4	12-70	27.1	20	P
Acenaphthene	14.9	10.0	ug/L	46.7	BLOD	31.9	15-90	50.5	20	P
Acenaphthylene	16.1	10.0	ug/L	46.7	BLOD	34.5	15-99	46.6	20	P
Acetophenone	16.3	20.0	ug/L	46.7	BLOD	34.9	0-200	38.5	20	P
alpha-Terpineol	17.5	2.50	ug/L	46.7	BLOD	37.5	0-200	38.2	20	P
Anthracene	28.4	10.0	ug/L	46.7	BLOD	60.8	20-95	30.3	20	P
Benzo (a) anthracene	26.1	9.35	ug/L	46.7	BLOD	55.9	25-95	16.9	20	
Benzo (a) pyrene	34.0	0.20	ug/L	46.7	BLOD	72.9	25-82	17.3	20	
Benzo (b) fluoranthene	37.3	10.0	ug/L	46.7	BLOD	79.7	25-75	21.4	20	M, P
Benzo (g,h,i) perylene	26.1	10.0	ug/L	46.7	BLOD	55.9	25-90	19.5	20	
Benzo (k) fluoranthene	33.0	10.0	ug/L	46.7	BLOD	70.6	25-95	7.68	20	
bis (2-Chloroethoxy) methane	14.0	10.0	ug/L	46.7	BLOD	30.0	25-85	50.3	20	P
bis (2-Chloroethyl) ether	14.3	10.0	ug/L	46.7	BLOD	30.7	25-85	45.9	20	P
2,2'-Oxybis (1-chloropropane)	14.4	10.0	ug/L	46.7	BLOD	30.9	25-87	53.0	20	P
bis (2-Ethylhexyl) phthalate	33.0	5.00	ug/L	46.7	BLOD	70.6	30-125	12.7	20	
Butyl benzyl phthalate	30.5	10.0	ug/L	46.7	BLOD	65.3	30-115	15.3	20	
Carbazole	32.1	2.50	ug/L	46.7	BLOD	68.7	0-200	22.5	20	P
Chrysene	32.8	10.0	ug/L	46.7	BLOD	70.2	20-90	17.5	20	
Dibenz (a,h) anthracene	30.2	10.0	ug/L	46.7	BLOD	64.6	27-125	18.7	20	

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ1037 - SW3510C/EPA600-MS

Matrix Spike Dup (BFJ1037-MSD3)	Source: 22J1229-03			Prepared & Analyzed: 10/27/2022						
Diethyl phthalate	25.7	10.0	ug/L	46.7	BLOD	55.1	25-120	31.2	20	P
Dimethyl phthalate	22.3	10.0	ug/L	46.7	BLOD	47.7	25-125	42.2	20	P
Di-n-butyl phthalate	28.5	10.0	ug/L	46.7	BLOD	61.1	25-115	25.0	20	P
Di-n-octyl phthalate	42.7	10.0	ug/L	46.7	BLOD	91.3	22-105	3.36	20	
Fluoranthene	30.0	10.0	ug/L	46.7	BLOD	64.3	25-96	28.0	20	P
Fluorene	18.2	10.0	ug/L	46.7	BLOD	38.9	15-97	45.1	20	P
Hexachlorobenzene	24.6	0.93	ug/L	46.7	BLOD	52.6	25-125	37.8	20	P
Hexachlorobutadiene	15.9	10.0	ug/L	46.7	BLOD	34.1	25-125	42.8	20	P
Hexachlorocyclopentadiene	12.4	10.0	ug/L	46.7	BLOD	26.6	10-90	49.1	20	P
Hexachloroethane	13.3	10.0	ug/L	46.7	BLOD	28.5	25-125	44.6	20	P
Indeno (1,2,3-cd) pyrene	29.1	10.0	ug/L	46.7	BLOD	62.2	25-125	20.5	20	P
Isophorone	7.74	10.0	ug/L	46.7	BLOD	16.6	10-110	59.4	20	P
Naphthalene	16.2	0.10	ug/L	46.7	BLOD	34.6	12-100	46.2	20	P
Nitrobenzene	16.1	10.0	ug/L	46.7	BLOD	34.5	27-77	40.6	20	P
n-Nitrosodimethylamine	12.1	10.0	ug/L	46.7	BLOD	25.9	10-85	38.0	20	P
n-Nitrosodi-n-propylamine	15.5	10.0	ug/L	46.7	BLOD	33.1	12-97	44.5	20	P
n-Nitrosodiphenylamine	20.0	10.0	ug/L	46.7	BLOD	42.8	12-97	29.7	20	P
p-Chloro-m-cresol	19.0	10.0	ug/L	46.7	BLOD	40.6	10-91	37.3	20	P
Pentachlorophenol	39.0	20.0	ug/L	46.7	BLOD	83.4	27-109	27.1	20	P
Phenanthrene	31.7	10.0	ug/L	46.7	BLOD	67.8	35-115	29.8	20	P
Phenol	4.49	10.0	ug/L	47.2	BLOD	9.50	10-70	55.1	20	M, P
Pyrene	33.7	10.0	ug/L	46.7	BLOD	72.2	23-110	12.4	20	
Pyridine	18.3	10.0	ug/L	46.7	BLOD	39.3	0-200	29.8	20	P
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	55.4		ug/L	93.5		59.3	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	14.8		ug/L	46.7		31.7	9-87			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

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### Batch BFJ1037 - SW3510C/EPA600-MS

**Matrix Spike Dup (BFJ1037-MSD3)**

Source: 22J1229-03

Prepared & Analyzed: 10/27/2022

<i>Surr: 2-Fluorophenol (Surr)</i>	21.4		ug/L	93.5		22.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	16.2		ug/L	46.7		34.7	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	11.6		ug/L	93.5		12.4	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	29.5		ug/L	46.7		63.1	27-133			

### Batch BFK0015 - SW3510C/EPA600-MS

**Blank (BFK0015-BLK1)**

Prepared & Analyzed: 11/01/2022

4-Aminobiphenyl	ND	10.0	ug/L							
bis (2-Ethylhexyl) phthalate	ND	5.00	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>	99.4		ug/L	100		99.4	10-86			S
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	34.9		ug/L	50.0		69.9	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	37.9		ug/L	100		37.9	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	32.2		ug/L	50.0		64.5	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	23.8		ug/L	100		23.8	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	42.8		ug/L	50.0		85.6	27-133			

**LCS (BFK0015-BS1)**

Prepared & Analyzed: 11/01/2022

1,2,4-Trichlorobenzene	17.3	10.0	ug/L	50.0		34.5	22-135			
1,2-Dichlorobenzene	13.3	10.0	ug/L	50.0		26.6	22-115			
1,3-Dichlorobenzene	13.3	10.0	ug/L	50.0		26.7	22-112			
1,4-Dichlorobenzene	14.8	10.0	ug/L	50.0		29.7	13-112			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFK0015 - SW3510C/EPA600-MS**

**LCS (BFK0015-BS1)**

Prepared & Analyzed: 11/01/2022

2,4,6-Trichlorophenol	15.8	10.0	ug/L	50.0		31.6	11-145			
2,4-Dichlorophenol	17.4	10.0	ug/L	50.0		34.8	11-75			
2,4-Dimethylphenol	17.1	5.00	ug/L	50.0		34.2	11-121			
2,4-Dinitrophenol	30.3	50.0	ug/L	50.0		60.6	11-165			
2,4-Dinitrotoluene	28.9	10.0	ug/L	50.0		57.9	17-155			
2,6-Dinitrotoluene	21.0	10.0	ug/L	50.0		42.0	15-125			
2-Chloronaphthalene	14.4	10.0	ug/L	50.0		28.8	27-89			
2-Chlorophenol	14.2	10.0	ug/L	50.0		28.4	15-110			
2-Nitrophenol	19.6	10.0	ug/L	50.0		39.1	11-115			
3,3'-Dichlorobenzidine	20.3	10.0	ug/L	50.0		40.5	25-95			
4,6-Dinitro-2-methylphenol	33.8	50.0	ug/L	50.0		67.7	25-130			
4-Bromophenyl phenyl ether	21.4	10.0	ug/L	50.0		42.9	15-110			
4-Chlorophenyl phenyl ether	15.7	10.0	ug/L	50.0		31.3	15-110			
4-Nitrophenol	2.48	50.0	ug/L	50.0		4.96	12-70			L
Acenaphthene	15.2	10.0	ug/L	50.0		30.4	18-85			
Acenaphthylene	15.1	10.0	ug/L	50.0		30.3	20-75			
Acetophenone	16.3	20.0	ug/L	50.0		32.6	0-200			
alpha-Terpineol	17.1	2.50	ug/L	50.0		34.2	0-200			
Anthracene	25.4	10.0	ug/L	50.0		50.8	35-95			
Benzo (a) anthracene	32.1	10.0	ug/L	50.0		64.2	25-95			
Benzo (a) pyrene	33.5	0.20	ug/L	50.0		67.0	37-110			
Benzo (b) fluoranthene	33.3	10.0	ug/L	50.0		66.6	25-75			
Benzo (g,h,i) perylene	27.1	10.0	ug/L	50.0		54.2	25-90			
Benzo (k) fluoranthene	33.5	10.0	ug/L	50.0		67.0	25-95			
bis (2-Chloroethoxy) methane	14.3	10.0	ug/L	50.0		28.5	25-110			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFK0015 - SW3510C/EPA600-MS**

**LCS (BFK0015-BS1)**

Prepared & Analyzed: 11/01/2022

bis (2-Chloroethyl) ether	11.5	10.0	ug/L	50.0		22.9	25-85			L
2,2'-Oxybis (1-chloropropane)	15.4	10.0	ug/L	50.0		30.9	25-95			
bis (2-Ethylhexyl) phthalate	38.6	5.00	ug/L	50.0		77.2	30-125			
Butyl benzyl phthalate	33.1	10.0	ug/L	50.0		66.2	30-115			
Carbazole	37.5	2.50	ug/L	50.0		74.9	0-200			
Chrysene	34.4	10.0	ug/L	50.0		68.9	20-90			
Dibenz (a,h) anthracene	32.9	10.0	ug/L	50.0		65.7	27-125			
Diethyl phthalate	27.2	10.0	ug/L	50.0		54.3	25-120			
Dimethyl phthalate	20.7	10.0	ug/L	50.0		41.3	25-125			
Di-n-butyl phthalate	39.5	10.0	ug/L	50.0		79.0	35-115			
Di-n-octyl phthalate	37.9	10.0	ug/L	50.0		75.8	25-105			
Fluoranthene	38.0	10.0	ug/L	50.0		76.1	33-95			
Fluorene	17.5	10.0	ug/L	50.0		35.0	15-97			
Hexachlorobenzene	27.0	1.00	ug/L	50.0		53.9	25-125			
Hexachlorobutadiene	19.6	10.0	ug/L	50.0		39.3	25-125			
Hexachlorocyclopentadiene	17.3	10.0	ug/L	50.0		34.7	25-125			
Hexachloroethane	13.8	10.0	ug/L	50.0		27.7	25-125			
Indeno (1,2,3-cd) pyrene	33.7	10.0	ug/L	50.0		67.3	25-125			
Isophorone	8.98	10.0	ug/L	50.0		18.0	10-110			
Naphthalene	16.3	0.10	ug/L	50.0		32.6	12-100			
Nitrobenzene	15.0	10.0	ug/L	50.0		30.0	30-97			
n-Nitrosodimethylamine	9.07	10.0	ug/L	50.0		18.1	10-85			
n-Nitrosodi-n-propylamine	13.6	10.0	ug/L	50.0		27.2	12-97			
n-Nitrosodiphenylamine	17.4	10.0	ug/L	50.0		34.7	12-97			
p-Chloro-m-cresol	17.4	10.0	ug/L	50.0		34.9	10-91			

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Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFK0015 - SW3510C/EPA600-MS

**LCS (BFK0015-BS1)**

Prepared &amp; Analyzed: 11/01/2022

Pentachlorophenol	33.4	20.0	ug/L	50.0		66.8	30-109			
Phenanthrene	29.5	10.0	ug/L	50.0		59.1	30-88			
Phenol	5.60	10.0	ug/L	50.5		11.1	10-70			
Pyrene	33.2	10.0	ug/L	50.0		66.4	27-110			
Pyridine	11.2	10.0	ug/L	50.0		22.4	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	59.9		ug/L	100		59.9	10-86			
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	15.9		ug/L	50.0		31.8	9-87			
<i>Surr: 2-Fluorophenol (Surr)</i>	19.4		ug/L	100		19.4	10-52			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	15.7		ug/L	50.0		31.4	10-98.5			
<i>Surr: Phenol-d5 (Surr)</i>	12.7		ug/L	100		12.7	5-33			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	33.1		ug/L	50.0		66.2	27-133			

**Matrix Spike (BFK0015-MS1)**

Source: 22J1275-06

Prepared &amp; Analyzed: 11/01/2022

1,2,4-Trichlorobenzene	44.7	11.1	ug/L	55.6	BLOD	80.5	22-65			M
1,2-Dichlorobenzene	39.5	11.1	ug/L	55.6	BLOD	71.0	22-60			M
1,3-Dichlorobenzene	35.0	11.1	ug/L	55.6	BLOD	63.1	22-60			M
1,4-Dichlorobenzene	38.9	11.1	ug/L	55.6	BLOD	70.1	13-60			M
2,4,6-Trichlorophenol	44.2	11.1	ug/L	55.6	BLOD	79.5	11-75			M
2,4-Dichlorophenol	47.0	11.1	ug/L	55.6	BLOD	84.6	11-75			M
2,4-Dimethylphenol	43.0	5.56	ug/L	55.6	BLOD	77.5	11-65			M
2,4-Dinitrophenol	59.0	55.6	ug/L	55.6	BLOD	106	11-110			
2,4-Dinitrotoluene	49.5	11.1	ug/L	55.6	BLOD	89.2	17-95			
2,6-Dinitrotoluene	46.2	11.1	ug/L	55.6	BLOD	83.2	15-125			
2-Chloronaphthalene	39.6	11.1	ug/L	55.6	BLOD	71.3	27-89			
2-Chlorophenol	35.6	11.1	ug/L	55.6	BLOD	64.0	19-64			M



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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFK0015 - SW3510C/EPA600-MS**

Matrix Spike (BFK0015-MS1)	Source: 22J1275-06			Prepared & Analyzed: 11/01/2022						
2-Nitrophenol	48.3	11.1	ug/L	55.6	BLOD	87.0	11-75			M
3,3'-Dichlorobenzidine	30.1	11.1	ug/L	55.6	BLOD	54.2	10-85			
4,6-Dinitro-2-methylphenol	54.4	55.6	ug/L	55.6	BLOD	98.0	40-130			
4-Bromophenyl phenyl ether	47.0	11.1	ug/L	55.6	BLOD	84.5	15-110			
4-Chlorophenyl phenyl ether	40.9	11.1	ug/L	55.6	BLOD	73.7	15-110			
4-Nitrophenol	14.6	55.6	ug/L	55.6	BLOD	26.2	12-70			
Acenaphthene	43.1	11.1	ug/L	55.6	BLOD	77.6	15-90			
Acenaphthylene	41.3	11.1	ug/L	55.6	BLOD	74.4	15-99			
Acetophenone	39.1	22.2	ug/L	55.6	BLOD	70.3	0-200			
alpha-Terpineol	45.3	2.78	ug/L	55.6	BLOD	81.5	0-200			
Anthracene	45.5	11.1	ug/L	55.6	BLOD	81.9	20-95			
Benzo (a) anthracene	47.3	11.1	ug/L	55.6	BLOD	85.1	25-95			
Benzo (a) pyrene	53.4	0.22	ug/L	55.6	BLOD	96.1	25-82			M
Benzo (b) fluoranthene	54.3	11.1	ug/L	55.6	BLOD	97.8	25-75			M
Benzo (g,h,i) perylene	40.7	11.1	ug/L	55.6	BLOD	73.2	25-90			
Benzo (k) fluoranthene	51.4	11.1	ug/L	55.6	BLOD	92.6	25-95			
bis (2-Chloroethoxy) methane	37.2	11.1	ug/L	55.6	BLOD	66.9	25-85			
bis (2-Chloroethyl) ether	28.7	11.1	ug/L	55.6	BLOD	51.7	25-85			
2,2'-Oxybis (1-chloropropane)	39.8	11.1	ug/L	55.6	BLOD	71.6	25-87			
bis (2-Ethylhexyl) phthalate	58.1	5.56	ug/L	55.6	BLOD	105	30-125			
Butyl benzyl phthalate	51.1	11.1	ug/L	55.6	BLOD	92.0	30-115			
Carbazole	59.0	2.78	ug/L	55.6	BLOD	106	0-200			
Chrysene	51.1	11.1	ug/L	55.6	BLOD	91.9	20-90			M
Dibenz (a,h) anthracene	49.5	11.1	ug/L	55.6	BLOD	89.0	27-125			
Diethyl phthalate	46.2	11.1	ug/L	55.6	BLOD	83.1	25-120			

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFK0015 - SW3510C/EPA600-MS</b>										
<b>Matrix Spike (BFK0015-MS1)</b>	<b>Source: 22J1275-06</b>			<b>Prepared &amp; Analyzed: 11/01/2022</b>						
Dimethyl phthalate	43.2	11.1	ug/L	55.6	BLOD	77.8	25-125			
Di-n-butyl phthalate	61.4	11.1	ug/L	55.6	BLOD	110	25-115			
Di-n-octyl phthalate	63.2	11.1	ug/L	55.6	BLOD	114	22-105			M
Fluoranthene	57.7	11.1	ug/L	55.6	BLOD	104	25-96			M
Fluorene	42.3	11.1	ug/L	55.6	BLOD	76.1	15-97			
Hexachlorobenzene	48.2	1.11	ug/L	55.6	BLOD	86.8	25-125			
Hexachlorobutadiene	53.9	11.1	ug/L	55.6	BLOD	97.0	25-125			
Hexachlorocyclopentadiene	52.7	11.1	ug/L	55.6	BLOD	94.8	10-90			M
Hexachloroethane	37.5	11.1	ug/L	55.6	BLOD	67.6	25-125			
Indeno (1,2,3-cd) pyrene	50.4	11.1	ug/L	55.6	BLOD	90.7	25-125			
Isophorone	23.1	11.1	ug/L	55.6	BLOD	41.5	10-110			
Naphthalene	43.5	0.11	ug/L	55.6	BLOD	78.3	12-100			
Nitrobenzene	35.9	11.1	ug/L	55.6	BLOD	64.6	27-77			
n-Nitrosodimethylamine	20.9	11.1	ug/L	55.6	BLOD	37.6	10-85			
n-Nitrosodi-n-propylamine	34.6	11.1	ug/L	55.6	BLOD	62.3	12-97			
n-Nitrosodiphenylamine	34.0	11.1	ug/L	55.6	BLOD	61.2	12-97			
p-Chloro-m-cresol	46.0	11.1	ug/L	55.6	BLOD	82.7	10-91			
Pentachlorophenol	54.3	22.2	ug/L	55.6	BLOD	97.7	27-109			
Phenanthrene	52.0	11.1	ug/L	55.6	BLOD	93.7	35-115			
Phenol	14.7	11.1	ug/L	56.1	BLOD	26.3	10-70			
Pyrene	50.4	11.1	ug/L	55.6	BLOD	90.8	23-110			
Pyridine	23.5	11.1	ug/L	55.6	BLOD	42.2	0-200			
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>131</i>		ug/L	<i>111</i>		<i>118</i>	<i>10-86</i>			<i>S</i>
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>44.7</i>		ug/L	<i>55.6</i>		<i>80.4</i>	<i>9-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>53.1</i>		ug/L	<i>111</i>		<i>47.8</i>	<i>10-52</i>			



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Semivolatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFK0015 - SW3510C/EPA600-MS**

Matrix Spike Dup (BFK0015-MSD1)	Source: 22J1275-06			Prepared & Analyzed: 11/01/2022						
Acetophenone	33.5	20.0	ug/L	48.5	BLOD	69.0	0-200	15.4	20	
alpha-Terpineol	39.7	2.50	ug/L	48.5	BLOD	81.7	0-200	13.3	20	
Anthracene	37.0	10.0	ug/L	48.5	BLOD	76.1	20-95	20.7	20	P
Benzidine	ND	50.0	ug/L	48.5	BLOD		12-75		20	M
Benzo (a) anthracene	42.4	9.71	ug/L	48.5	BLOD	87.3	25-95	11.0	20	
Benzo (a) pyrene	47.4	0.20	ug/L	48.5	BLOD	97.7	25-82	11.8	20	M
Benzo (b) fluoranthene	45.7	10.0	ug/L	48.5	BLOD	94.1	25-75	17.2	20	M
Benzo (g,h,i) perylene	35.8	10.0	ug/L	48.5	BLOD	73.8	25-90	12.7	20	
Benzo (k) fluoranthene	47.1	10.0	ug/L	48.5	BLOD	97.0	25-95	8.76	20	M
bis (2-Chloroethoxy) methane	32.7	10.0	ug/L	48.5	BLOD	67.3	25-85	12.9	20	
bis (2-Chloroethyl) ether	25.2	10.0	ug/L	48.5	BLOD	51.9	25-85	13.1	20	
2,2'-Oxybis (1-chloropropane)	33.9	10.0	ug/L	48.5	BLOD	69.7	25-87	16.1	20	
bis (2-Ethylhexyl) phthalate	52.7	5.00	ug/L	48.5	BLOD	109	30-125	9.67	20	
Butyl benzyl phthalate	45.5	10.0	ug/L	48.5	BLOD	93.8	30-115	11.6	20	
Carbazole	48.9	2.50	ug/L	48.5	BLOD	101	0-200	18.6	20	
Chrysene	46.1	10.0	ug/L	48.5	BLOD	94.9	20-90	10.3	20	M
Dibenz (a,h) anthracene	40.8	10.0	ug/L	48.5	BLOD	84.1	27-125	19.1	20	
Diethyl phthalate	41.1	10.0	ug/L	48.5	BLOD	84.6	25-120	11.7	20	
Dimethyl phthalate	37.2	10.0	ug/L	48.5	BLOD	76.7	25-125	14.8	20	
Di-n-butyl phthalate	52.5	10.0	ug/L	48.5	BLOD	108	25-115	15.7	20	
Di-n-octyl phthalate	54.1	10.0	ug/L	48.5	BLOD	111	22-105	15.6	20	M
Fluoranthene	47.9	10.0	ug/L	48.5	BLOD	98.6	25-96	18.7	20	M
Fluorene	37.2	10.0	ug/L	48.5	BLOD	76.7	15-97	12.7	20	
Hexachlorobenzene	40.0	0.97	ug/L	48.5	BLOD	82.4	25-125	18.7	20	
Hexachlorobutadiene	47.2	10.0	ug/L	48.5	BLOD	97.3	25-125	13.1	20	

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Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFK0015 - SW3510C/EPA600-MS</b>										
<b>Matrix Spike Dup (BFK0015-MSD1)</b>		<b>Source: 22J1275-06</b>			<b>Prepared &amp; Analyzed: 11/01/2022</b>					
Hexachlorocyclopentadiene	45.4	10.0	ug/L	48.5	BLOD	93.5	10-90	14.9	20	M
Hexachloroethane	32.0	10.0	ug/L	48.5	BLOD	66.0	25-125	15.9	20	
Indeno (1,2,3-cd) pyrene	42.9	10.0	ug/L	48.5	BLOD	88.3	25-125	16.2	20	
Isophorone	19.7	10.0	ug/L	48.5	BLOD	40.6	10-110	15.8	20	
Naphthalene	38.2	0.10	ug/L	48.5	BLOD	78.7	12-100	13.0	20	
Nitrobenzene	31.5	10.0	ug/L	48.5	BLOD	64.8	27-77	13.2	20	
n-Nitrosodimethylamine	16.7	10.0	ug/L	48.5	BLOD	34.5	10-85	22.2	20	P
n-Nitrosodi-n-propylamine	29.1	10.0	ug/L	48.5	BLOD	60.0	12-97	17.1	20	
n-Nitrosodiphenylamine	30.7	10.0	ug/L	48.5	BLOD	63.1	12-97	10.4	20	
p-Chloro-m-cresol	40.2	10.0	ug/L	48.5	BLOD	82.9	10-91	13.3	20	
Pentachlorophenol	47.1	20.0	ug/L	48.5	BLOD	97.0	27-109	14.2	20	
Phenanthrene	43.8	10.0	ug/L	48.5	BLOD	90.2	35-115	17.2	20	
Phenol	11.9	10.0	ug/L	49.0	BLOD	24.3	10-70	21.2	20	P
Pyrene	45.3	10.0	ug/L	48.5	BLOD	93.3	23-110	10.7	20	
Pyridine	19.0	10.0	ug/L	48.5	BLOD	39.2	0-200	20.9	20	P
<i>Surr: 2,4,6-Tribromophenol (Surr)</i>	<i>105</i>		ug/L	<i>97.1</i>		<i>108</i>	<i>10-86</i>			<i>S</i>
<i>Surr: 2-Fluorobiphenyl (Surr)</i>	<i>37.2</i>		ug/L	<i>48.5</i>		<i>76.6</i>	<i>9-87</i>			
<i>Surr: 2-Fluorophenol (Surr)</i>	<i>41.3</i>		ug/L	<i>97.1</i>		<i>42.5</i>	<i>10-52</i>			
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>33.0</i>		ug/L	<i>48.5</i>		<i>67.9</i>	<i>10-98.5</i>			
<i>Surr: Phenol-d5 (Surr)</i>	<i>26.9</i>		ug/L	<i>97.1</i>		<i>27.7</i>	<i>5-33</i>			
<i>Surr: p-Terphenyl-d14 (Surr)</i>	<i>44.4</i>		ug/L	<i>48.5</i>		<i>91.4</i>	<i>27-133</i>			

## Certificate of Analysis

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0915 - SW3510C/EPA600-ECD</b>										
<b>Blank (BFJ0915-BLK1)</b> Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	ND	0.050	ug/L							
Surr: TCMX	0.129		ug/L	0.200		64.5	18-112			
Surr: DCB	0.124		ug/L	0.200		62.0	27-131			
<b>LCS (BFJ0915-BS1)</b> Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	0.068	0.050	ug/L	0.100		67.6	23-134			
Surr: TCMX	0.141		ug/L	0.200		70.3	18-112			
Surr: DCB	0.131		ug/L	0.200		65.4	27-131			
<b>LCS (BFJ0915-BS3)</b> Prepared: 10/24/2022 Analyzed: 10/26/2022										
Surr: TCMX	0.121		ug/L	0.200		60.5	18-112			
Surr: DCB	0.151		ug/L	0.200		75.4	27-131			
<b>LCS (BFJ0915-BS4)</b> Prepared: 10/24/2022 Analyzed: 10/26/2022										
Surr: TCMX	0.129		ug/L	0.200		64.6	18-112			
Surr: DCB	0.156		ug/L	0.200		77.8	27-131			
<b>Matrix Spike (BFJ0915-MS1)</b> Source: 22J1082-05 Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	0.073	0.053	ug/L	0.105	BLOD	69.2	23-134			
Surr: TCMX	0.140		ug/L	0.211		66.5	18-112			
Surr: DCB	0.0930		ug/L	0.211		44.2	27-131			
<b>Matrix Spike (BFJ0915-MS2)</b> Source: 22J1102-01 Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	0.072	0.050	ug/L	0.0935	BLOD	77.4	23-134			
Surr: TCMX	0.111		ug/L	0.187		59.6	18-112			
Surr: DCB	0.0623		ug/L	0.187		33.3	27-131			

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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0915 - SW3510C/EPA600-ECD</b>										
<b>Matrix Spike Dup (BFJ0915-MSD1)</b> Source: 22J1082-05      Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	0.070	0.053	ug/L	0.105	BLOD	66.5	23-134	4.05	20	
Surr: TCMX	0.138		ug/L	0.211		65.3	18-112			
Surr: DCB	0.110		ug/L	0.211		52.2	27-131			
<b>Matrix Spike Dup (BFJ0915-MSD2)</b> Source: 22J1102-01      Prepared: 10/24/2022 Analyzed: 10/26/2022										
Endosulfan sulfate	0.086	0.050	ug/L	0.0935	BLOD	91.5	23-134	16.7	20	
Surr: TCMX	0.102		ug/L	0.187		54.7	18-112			
Surr: DCB	0.0420		ug/L	0.187		22.5	27-131			S
<b>Batch BFJ1178 - SW3510C/EPA600-ECD</b>										
<b>Blank (BFJ1178-BLK1)</b> Prepared: 10/31/2022 Analyzed: 11/01/2022										
Endosulfan sulfate	ND	0.050	ug/L							
Surr: TCMX	0.129		ug/L	0.200		64.6	18-112			
Surr: DCB	0.158		ug/L	0.200		79.0	27-131			
<b>LCS (BFJ1178-BS1)</b> Prepared: 10/31/2022 Analyzed: 11/01/2022										
Endosulfan sulfate	0.127	0.050	ug/L	0.100		127	23-134			
Surr: TCMX	0.159		ug/L	0.200		79.7	18-112			
Surr: DCB	0.191		ug/L	0.200		95.3	27-131			
<b>LCS (BFJ1178-BS3)</b> Prepared: 10/31/2022 Analyzed: 11/01/2022										
Surr: TCMX	0.129		ug/L	0.200		64.4	18-112			
Surr: DCB	0.189		ug/L	0.200		94.4	27-131			
<b>LCS (BFJ1178-BS4)</b> Prepared: 10/31/2022 Analyzed: 11/01/2022										
Surr: TCMX	0.140		ug/L	0.200		69.8	18-112			



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Organochlorine Pesticides and PCBs by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1178 - SW3510C/EPA600-ECD**

**LCS (BFJ1178-BS4)**

Prepared: 10/31/2022 Analyzed: 11/01/2022

<i>Surr: DCB</i>	0.174		ug/L	0.200		86.8	27-131			
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Organochlorine Herbicides by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ1192 - SW8151A/EPA600</b>										
<b>Blank (BFJ1192-BLK1)</b> Prepared: 10/31/2022 Analyzed: 11/03/2022										
2,4,5-T	ND	0.500	ug/L							
Surr: DCAA (Surr)	0.900		ug/L	1.11		81.0	48.5-134			
<b>LCS (BFJ1192-BS1)</b> Prepared: 10/31/2022 Analyzed: 11/03/2022										
2,4,5-T	0.519	0.500	ug/L	0.556		93.4	62-145			
Surr: DCAA (Surr)	1.01		ug/L	1.11		91.3	70-130			
<b>Batch BFK0107 - SW8151A/EPA600</b>										
<b>Blank (BFK0107-BLK1)</b> Prepared: 11/02/2022 Analyzed: 11/03/2022										
2,4,5-T	ND	0.500	ug/L							
Surr: DCAA (Surr)	0.644		ug/L	1.11		57.9	48.5-134			
<b>LCS (BFK0107-BS1)</b> Prepared: 11/02/2022 Analyzed: 11/03/2022										
2,4,5-T	0.497	0.500	ug/L	0.556		89.4	62-145			
Surr: DCAA (Surr)	0.716		ug/L	1.11		64.4	70-130			S
<b>Matrix Spike (BFK0107-MS1)</b> Source: 22J1391-05 Prepared: 11/02/2022 Analyzed: 11/03/2022										
2,4,5-T	0.387	0.500	ug/L	0.556	BLOD	69.6	53-144			
Surr: DCAA (Surr)	0.576		ug/L	1.11		51.9	70-130			S
<b>Matrix Spike Dup (BFK0107-MSD1)</b> Source: 22J1391-05 Prepared: 11/02/2022 Analyzed: 11/03/2022										
2,4,5-T	0.316	0.500	ug/L	0.556	BLOD	56.9	53-144	20.0	20	P
Surr: DCAA (Surr)	0.507		ug/L	1.11		45.6	70-130			S

## Certificate of Analysis

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Micro-extractables by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ1163 - SW8011</b>										
<b>Blank (BFJ1163-BLK1)</b>				Prepared: 10/31/2022 Analyzed: 11/01/2022						
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							
<b>LCS (BFJ1163-BS1)</b>				Prepared: 10/31/2022 Analyzed: 11/01/2022						
1,2-Dibromoethane (EDB)	0.234	0.010	ug/L	0.250		93.5	65-135			
1,2,3-Trichloropropane	0.224	0.010	ug/L	0.250		89.6	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.235	0.010	ug/L	0.250		94.1	65-135			
<b>Matrix Spike (BFJ1163-MS1)</b>				<b>Source: 22J1068-04</b>		Prepared: 10/31/2022 Analyzed: 11/01/2022				
1,2-Dibromoethane (EDB)	0.197	0.010	ug/L	0.252	BLOD	78.2	65-135			
1,2,3-Trichloropropane	0.200	0.010	ug/L	0.252	BLOD	79.5	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.199	0.010	ug/L	0.252	BLOD	79.0	65-135			
<b>Matrix Spike (BFJ1163-MS2)</b>				<b>Source: 22J1082-05</b>		Prepared: 10/31/2022 Analyzed: 11/02/2022				
1,2-Dibromoethane (EDB)	0.203	0.010	ug/L	0.252	BLOD	80.7	65-135			
1,2,3-Trichloropropane	0.207	0.010	ug/L	0.252	BLOD	82.3	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.184	0.010	ug/L	0.252	BLOD	73.1	65-135			
<b>Matrix Spike (BFJ1163-MS3)</b>				<b>Source: 22J1102-01</b>		Prepared: 10/31/2022 Analyzed: 11/02/2022				
1,2-Dibromoethane (EDB)	0.173	0.010	ug/L	0.252	BLOD	68.8	65-135			
1,2,3-Trichloropropane	0.219	0.010	ug/L	0.252	BLOD	86.7	65-135			
1,2-Dibromo-3-chloropropane (DBCP)	0.167	0.010	ug/L	0.252	BLOD	66.4	65-135			
<b>Matrix Spike Dup (BFJ1163-MSD1)</b>				<b>Source: 22J1068-04</b>		Prepared: 10/31/2022 Analyzed: 11/01/2022				
1,2-Dibromoethane (EDB)	0.212	0.010	ug/L	0.250	BLOD	84.6	65-135	7.24	20	
1,2,3-Trichloropropane	0.215	0.010	ug/L	0.250	BLOD	85.9	65-135	7.10	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.201	0.010	ug/L	0.250	BLOD	80.3	65-135	0.880	20	

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Micro-extractables by GC/ECD - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ1163 - SW8011**

<b>Matrix Spike Dup (BFJ1163-MSD2)</b>		<b>Source: 22J1082-05</b>		Prepared: 10/31/2022 Analyzed: 11/02/2022						
1,2-Dibromoethane (EDB)	0.191	0.010	ug/L	0.254	BLOD	75.1	65-135	6.25	20	
1,2,3-Trichloropropane	0.181	0.010	ug/L	0.254	BLOD	71.2	65-135	13.4	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.186	0.010	ug/L	0.254	BLOD	73.3	65-135	1.39	20	
<b>Matrix Spike Dup (BFJ1163-MSD3)</b>		<b>Source: 22J1102-01</b>		Prepared: 10/31/2022 Analyzed: 11/02/2022						
1,2-Dibromoethane (EDB)	0.201	0.010	ug/L	0.255	BLOD	78.6	65-135	14.5	20	
1,2,3-Trichloropropane	0.243	0.010	ug/L	0.255	BLOD	95.3	65-135	10.6	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.192	0.010	ug/L	0.255	BLOD	75.1	65-135	13.5	20	

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 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0971 - No Prep Wet Chem</b>										
<b>Blank (BFJ0971-BLK1)</b>				Prepared & Analyzed: 10/25/2022						
Sulfide	ND	1.00	mg/L							
<b>LCS (BFJ0971-BS1)</b>				Prepared & Analyzed: 10/25/2022						
Sulfide	4.72	1	mg/L	5.00		94.4	80-120			
<b>Matrix Spike (BFJ0971-MS1)</b>				Source: 22J1068-04 Prepared & Analyzed: 10/25/2022						
Sulfide	3.89	1.00	mg/L	5.00	BLOD	77.8	75-125			
<b>Matrix Spike (BFJ0971-MS2)</b>				Source: 22J1082-05 Prepared & Analyzed: 10/25/2022						
Sulfide	4.91	1.00	mg/L	5.00	BLOD	98.2	75-125			
<b>Matrix Spike Dup (BFJ0971-MSD1)</b>				Source: 22J1068-04 Prepared & Analyzed: 10/25/2022						
Sulfide	3.86	1.00	mg/L	5.00	BLOD	77.2	75-125	0.774	20	
<b>Matrix Spike Dup (BFJ0971-MSD2)</b>				Source: 22J1082-05 Prepared & Analyzed: 10/25/2022						
Sulfide	4.94	1.00	mg/L	5.00	BLOD	98.8	75-125	0.609	20	

## Certificate of Analysis

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### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.2/R2.8</b>		
22J1082-01	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
22J1082-02	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
22J1082-03	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
22J1082-04	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
22J1082-05	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
22J1082-06	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.8 R5.4</b>		
22J1082-01	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-02	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-02RE1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0039	AK20007
22J1082-03	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-03RE1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0039	AK20007
22J1082-04	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-04RE1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0099	AK20007
22J1082-05	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-05RE1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0099	AK20007
22J1082-06	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
22J1082-06RE1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0099	AK20007

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep Wet Chem</b>		
22J1082-01	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1082-02	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method: No Prep Wet Chem</b>		
22J1082-03	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1082-04	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1082-05	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1082-06	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method: SW3510C/EPA600-ECD</b>		
22J1082-01	990 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
22J1082-02	1030 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
22J1082-04	1030 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
22J1082-05	1020 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
22J1082-06	1000 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
22J1391-03	960 mL / 1.00 mL	SW8081B	BFJ1178	SFK0171	AK20024

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW3510C/EPA600-MS</b>		
22J1082-01	1000 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0907	AI20131
22J1082-02	1020 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0907	AI20131
22J1082-04	1000 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0907	AI20131
22J1082-06	1000 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0907	AI20131
22J1082-05	500 mL / 0.500 mL	SW8270E	BFJ1037	SFJ1084	AI20189
22J1391-03	920 mL / 1.00 mL	SW8270E	BFK0015	SFK0146	AI20131

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22J1082-01	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032



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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22J1082-02	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1082-03	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1082-04	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1082-05	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1082-06	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1082-07	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7470A</b>		
22J1082-01	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
22J1082-02	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
22J1082-03	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
22J1082-05	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
22J1082-06	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Micro-extractables by GC/ECD</b>			<b>Preparation Method: SW8011</b>		
22J1082-01	59.9 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-02	59.9 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-03	59.5 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-04	60.0 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-05	59.9 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-06	59.4 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
22J1082-07	60.1 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method: SW8151A/EPA600</b>		

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method: SW8151A/EPA600</b>		
22J1391-01	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
22J1391-02	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
22J1391-03	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
22J1391-04	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
22J1391-06	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
22J1391-05	900 mL / 5.00 mL	SW8151A	BFK0107	SFK0162	AK20025

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### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2/R2.8</b>	
BFJ0860-BLK1	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
BFJ0860-BS1	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
BFJ0860-MS1	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142
BFJ0860-MSD1	50.0 mL / 50.0 mL	SW6010D	BFJ0860	SFJ0867	AJ20142

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.8 R5.4</b>	
BFJ0866-BLK1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-BS1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-MS1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-MS2	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-MS3	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0099	AK20007
BFJ0866-MSD1	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-MSD2	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFJ1144	AJ20192
BFJ0866-MSD3	50.0 mL / 50.0 mL	SW6020B	BFJ0866	SFK0099	AK20007

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ0971-BLK1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-BS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MRL1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	

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<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ0971-MSD1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MSD2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Pesticides and PCBs by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW3510C/EPA600-ECD</b>	
BFJ0915-BLK1	1000 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-BLK2		SW8081B	BFJ0915	SFJ1026	AJ20063
BFJ0915-BLK3		SW8081B	BFJ0915	SFJ1028	AJ20105
BFJ0915-BS1	1000 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-BS2		SW8081B	BFJ0915	SFJ1026	AJ20063
BFJ0915-BS3	1000 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-BS4	1000 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-BS5		SW8081B	BFJ0915	SFJ1028	AJ20105
BFJ0915-MS1	950 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-MS2	1070 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-MS3		SW8081B	BFJ0915		
BFJ0915-MSD1	950 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-MSD2	1070 mL / 1.00 mL	SW8081B	BFJ0915	SFJ1024	AJ20147
BFJ0915-MSD3		SW8081B	BFJ0915		
BFJ1178-BLK1	1000 mL / 1.00 mL	SW8081B	BFJ1178	SFK0080	AJ20147
BFJ1178-BS1	1000 mL / 1.00 mL	SW8081B	BFJ1178	SFK0080	AJ20147
BFJ1178-BS2		SW8081B	BFJ1178	SFK0081	AJ20063
BFJ1178-BS3	1000 mL / 1.00 mL	SW8081B	BFJ1178	SFK0080	AJ20147
BFJ1178-BS4	1000 mL / 1.00 mL	SW8081B	BFJ1178	SFK0080	AJ20147

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW3510C/EPA600-MS</b>	
BFJ0881-BLK1	1000 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189

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<b>Semivolatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW3510C/EPA600-MS</b>		
BFJ0881-BS1	1000 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189
BFJ0881-MS1	1030 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189
BFJ0881-MS2	1070 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189
BFJ0881-MSD1	1030 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189
BFJ0881-MSD2	1070 mL / 1.00 mL	SW8270E	BFJ0881	SFJ0908	AI20189
BFJ1037-BLK1	1000 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1085	AI20131
BFJ1037-BS1	1000 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1085	AI20131
BFJ1037-MS1	500 mL / 0.500 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFJ1037-MS2	1030 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFJ1037-MS3	1070 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFJ1037-MSD1	500 mL / 0.500 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFJ1037-MSD2	1030 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFJ1037-MSD3	1070 mL / 1.00 mL	SW8270E	BFJ1037	SFJ1084	AI20189
BFK0015-BLK1	1000 mL / 1.00 mL	SW8270E	BFK0015	SFK0136	AI20131
BFK0015-BS1	1000 mL / 1.00 mL	SW8270E	BFK0015	SFK0136	AI20131
BFK0015-MS1	900 mL / 1.00 mL	SW8270E	BFK0015	SFK0136	AI20131
BFK0015-MSD1	1030 mL / 1.00 mL	SW8270E	BFK0015	SFK0136	AI20131

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
BFJ0903-BLK1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-BS1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-MS1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-MSD1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7470A</b>		

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW7470A</b>	
BFK0076-BLK1	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
BFK0076-BS1	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
BFK0076-MS1	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017
BFK0076-MSD1	20.0 mL / 20.0 mL	SW7470A	BFK0076	SFK0101	AK20017

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Micro-extractables by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW8011</b>	
BFJ1163-BLK1	60.0 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-BS1	60.0 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MS1	59.6 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MS2	59.6 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MS3	59.5 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MSD1	60.0 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MSD2	59.0 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178
BFJ1163-MSD3	58.8 mL / 2.00 mL	SW8011	BFJ1163	SFK0068	AJ20178

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Organochlorine Herbicides by GC/ECD</b>			<b>Preparation Method:</b>	<b>SW8151A/EPA600</b>	
BFJ1192-BLK1	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
BFJ1192-BS1	900 mL / 5.00 mL	SW8151A	BFJ1192	SFK0175	AJ20034
BFK0107-BLK1	900 mL / 5.00 mL	SW8151A	BFK0107	SFK0162	AK20025
BFK0107-BS1	900 mL / 5.00 mL	SW8151A	BFK0107	SFK0162	AK20025
BFK0107-MS1	900 mL / 5.00 mL	SW8151A	BFK0107	SFK0162	AK20025
BFK0107-MSD1	900 mL / 5.00 mL	SW8151A	BFK0107	SFK0162	AK20025

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### Certified Analyses included in this Report

Analyte	Certifications
<b>SW6010D in Non-Potable Water</b>	
Tin	VELAP,WVDEP
<b>SW6020B in Non-Potable Water</b>	
Antimony	VELAP,NCDEQ,WVDEP
Arsenic	VELAP,WVDEP
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
Thallium	VELAP,WVDEP
Vanadium	VELAP,WVDEP
Zinc	VELAP,WVDEP
<b>SW7470A in Non-Potable Water</b>	
Mercury	VELAP,NCDEQ,WVDEP
<b>SW8011 in Non-Potable Water</b>	
1,2-Dibromoethane (EDB)	VELAP,NCDEQ
1,2,3-Trichloropropane	VELAP,NCDEQ
1,2-Dibromo-3-chloropropane (DBCP)	VELAP,NCDEQ
<b>SW8081B in Non-Potable Water</b>	
Endosulfan sulfate	VELAP,NCDEQ,WVDEP,PADEP

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### Certified Analyses included in this Report

Analyte	Certifications
gamma-Chlordane	VELAP,NCDEQ,WVDEP,PADEP
<b>SW8151A in Non-Potable Water</b>	
2,4,5-T	VELAP,PADEP,NCDEQ,WVDEP
<b>SW8260D in Non-Potable Water</b>	
1,1,1,2-Tetrachloroethane	VELAP,NCDEQ,WVDEP
1,1,1-Trichloroethane	VELAP,NCDEQ,WVDEP
1,1,2,2-Tetrachloroethane	VELAP,NCDEQ,WVDEP
1,1,2-Trichloroethane	VELAP,NCDEQ,WVDEP
1,1-Dichloroethane	VELAP,NCDEQ,WVDEP
1,1-Dichloroethylene	VELAP,NCDEQ,WVDEP
1,2,3-Trichloropropane	VELAP,NCDEQ,WVDEP
1,2-Dichlorobenzene	VELAP,NCDEQ,WVDEP
1,2-Dichloroethane	VELAP,NCDEQ,WVDEP
1,2-Dichloropropane	VELAP,NCDEQ,WVDEP
1,4-Dichlorobenzene	VELAP,NCDEQ,WVDEP
2-Butanone (MEK)	VELAP,NCDEQ,WVDEP
2-Hexanone (MBK)	VELAP,NCDEQ,WVDEP
4-Methyl-2-pentanone (MIBK)	VELAP,NCDEQ,WVDEP
Acetone	VELAP,NCDEQ,WVDEP
Acrylonitrile	VELAP,NCDEQ,WVDEP
Benzene	VELAP,NCDEQ,WVDEP
Bromochloromethane	VELAP,NCDEQ,WVDEP
Bromodichloromethane	VELAP,NCDEQ,WVDEP
Bromoform	VELAP,NCDEQ,WVDEP
Bromomethane	VELAP,NCDEQ,WVDEP
Carbon disulfide	VELAP,NCDEQ,WVDEP
Carbon tetrachloride	VELAP,NCDEQ,WVDEP
Chlorobenzene	VELAP,NCDEQ,WVDEP

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

### Certified Analyses included in this Report

Analyte	Certifications
Chloroethane	VELAP,NCDEQ,WVDEP
Chloroform	VELAP,NCDEQ,WVDEP
Chloromethane	VELAP,NCDEQ,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
cis-1,3-Dichloropropene	VELAP,NCDEQ,WVDEP
Dibromochloromethane	VELAP,NCDEQ,WVDEP
Dibromomethane	VELAP,NCDEQ,WVDEP
Dichlorodifluoromethane	VELAP,NCDEQ,WVDEP
Ethylbenzene	VELAP,NCDEQ,WVDEP
Iodomethane	VELAP,NCDEQ,WVDEP
Isobutyl Alcohol	VELAP,NCDEQ,WVDEP
m+p-Xylenes	VELAP,NCDEQ,WVDEP
Methylene chloride	VELAP,NCDEQ,WVDEP
Naphthalene	VELAP,NCDEQ,WVDEP
o-Xylene	VELAP,NCDEQ,WVDEP
Styrene	VELAP,NCDEQ,WVDEP
Tetrachloroethylene (PCE)	VELAP,NCDEQ,WVDEP
Toluene	VELAP,NCDEQ,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
trans-1,3-Dichloropropene	VELAP,NCDEQ,WVDEP
trans-1,4-Dichloro-2-butene	VELAP,NCDEQ,WVDEP
Trichloroethylene	VELAP,NCDEQ,WVDEP
Trichlorofluoromethane	VELAP,NCDEQ,WVDEP
Vinyl acetate	VELAP,NCDEQ,WVDEP
Vinyl chloride	VELAP,NCDEQ,WVDEP
Xylenes, Total	VELAP,NCDEQ,WVDEP
<b>SW8270E in Non-Potable Water</b>	
4-Aminobiphenyl	VELAP,NCDEQ,WVDEP

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

### Certified Analyses included in this Report

Analyte	Certifications
bis (2-Ethylhexyl) phthalate	VELAP,NCDEQ,WVDEP
Dibenz (a,h) anthracene	VELAP,NCDEQ,WVDEP
Diethyl phthalate	VELAP,NCDEQ,WVDEP
Di-n-butyl phthalate	VELAP,NCDEQ,WVDEP
Indeno (1,2,3-cd) pyrene	VELAP,NCDEQ,WVDEP
<b>SW9215 in Non-Potable Water</b>	
Sulfide	VELAP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NC	North Carolina DENR	495	07/31/2023
NCDEQ	North Carolina DEQ	495	07/31/2023
NCDOH	North Carolina Department of Health	51714	07/31/2023
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2023
VELAP	NELAP-Virginia Certificate #12157	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

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## Certificate of Analysis

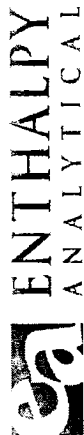
Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Compliance Wells  
Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

### 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.





# Sample Preservation Log

Order ID: 22J1082 Date Performed: 10/21/22 Analyst Performing Check: MM

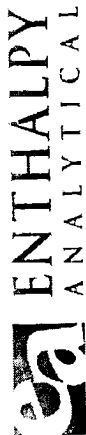
Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (5258270/625)		CrVI * **		Pest/PCB (508) / SVOC(525)		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	pH as Received	Other	pH as Received
1	A	/		/		/		/		/		/		/		/		/		/		/		/				
1	D	/		/		/		/		/		/		/		/		/		/		/		/				
1	E	/		/		/		/		/		/		/		/		/		/		/		/				
2	A	/		/		/		/		/		/		/		/		/		/		/		/				
2	D	/		/		/		/		/		/		/		/		/		/		/		/				
2	E	/		/		/		/		/		/		/		/		/		/		/		/				
3	A	/		/		/		/		/		/		/		/		/		/		/		/				
3	D	/		/		/		/		/		/		/		/		/		/		/		/				
3	E	/		/		/		/		/		/		/		/		/		/		/		/				
4	A	/		/		/		/		/		/		/		/		/		/		/		/				
4	D	/		/		/		/		/		/		/		/		/		/		/		/				
4	E	/		/		/		/		/		/		/		/		/		/		/		/				
5	A	/		/		/		/		/		/		/		/		/		/		/		/				
5	D	/		/		/		/		/		/		/		/		/		/		/		/				
5	E	/		/		/		/		/		/		/		/		/		/		/		/				

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7

\*\*W.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.





# Sample Preservation Log

Order ID: 22J1082 Date Performed: 10/21/22 Analyst Performing Check: MM

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081608/508) PCB DW only		SVOC (525/8270825)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH						
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -			
5	N																																	
5	O																																	
5	R																																	
5	S																																	
6	A																																	
6	D																																	
6	E																																	

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Na2S2O3 ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ Na2SO3 ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7  
 Buffer Sol'n ID: \_\_\_\_\_  
 1N NaOH ID: \_\_\_\_\_

\*\*W.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

1941 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX



CHAIN OF CUSTODY

COMPANY NAME: <b>Golder Associates</b>		INVOICE TO:		PROJECT NAME/Quote #:	
CONTACT: <b>Michele Clary</b>		INVOICE CONTACT:		SITE NAME: <b>Laurel Valley Compliance Wells</b>	
ADDRESS: <b>2108 W. Laburnum Ave, Suite 200</b>		INVOICE ADDRESS:		PROJECT NUMBER: <b>2014572921.100</b>	
PHONE #: <b>804-358-7900</b>		INVOICE PHONE #:		P.O. #:	
FAX #:		EMAIL:		Pretreatment Program:	
Is sample for compliance reporting? <b>YES</b>		Regulatory State: <b>VA</b>		Is sample from a chlorinated supply? <b>NO</b>	
PWS I.D. #:		Turn Around Time: <b>Circle 10</b>		5 Days or Day(s)	
SAMPLER NAME (PRINT): <b>M. Kuc / V. Strm</b>		SAMPLER SIGNATURE: <i>M. Kuc / V. Strm</i>		COMMENTS	
Matrix Codes: <b>WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other</b>					
Preservative Codes: <b>N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Hydrochloric Acid A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol</b>					
CLIENT SAMPLE I.D.					
ANALYSIS / (PRESERVATIVE)					
Number of Containers					
Matrix (See Codes)					
Time Preserved					
Grab Time or Composite Stop					
Composite Start Date					
Composite Start Time					
Composite Start Date					
Field Filtered (Dissolved Metals)					
Composite					
Grab					
1) MW-1B	X	10/27/22	1105	10/27/22	1105
2) MW-2B	X	10/27/22	1145	10/27/22	1145
3) MW-3A	X	10/27/22	1135	10/27/22	1135
4) MW-4	X	10/27/22	1110	10/27/22	1110
5) MW-20	X	10/27/22	1240	10/27/22	1240
6) Field Blank	X	10/27/22	1020	10/27/22	1020
7)					
8)					
9)					
10)					
Herb 8181 **		X			
SVOC 3.1B **		X			
Pest 8081 **		X			
*Cancel Co via SW-6010 in 3.1A test code					
PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)					
** Custom list, see sample memo on file					
MSMSD					
5.706					
1.777					
0.016					
Sealed					
LAB USE ONLY		Therm ID:		COOLER TEMP °C	
QC Data Package		Level III <input type="checkbox"/>		Level IV <input type="checkbox"/>	
Custody Seals used and intact? (Y/N)		Custody Seals used and intact? (Y/N)		Received on ice? (Y/N)	
RECEIVED: <i>M. Kuc</i>		RECEIVED: <i>V. Strm</i>		RECEIVED: <i>M. Kuc</i>	
DATE / TIME: 10/28/22 1007		DATE / TIME: 10/28/22 1007		DATE / TIME: 10/28/22 1007	
RECEIVED:		RECEIVED:		RECEIVED:	
DATE / TIME:		DATE / TIME:		DATE / TIME:	
Page 145 of 150		Page 145 of 150		Page 145 of 150	

GA  
Laurel Valley Compliance Wells  
22J1391  
Recd: 10/28/2022 Due: 11/04/2022  
v130325002



# Sample Preservation Log

Order ID: 22J1391 Date Performed: 10/28/22 Analyst Performing Check: MM

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (529/8270/625)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH				
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Res. Cl	final + or -	Received	Final pH	Res. Cl	final + or -	Res. Cl	Final pH	Other	Final pH	
3	B																															
3	C																															

NaOH ID: \_\_\_\_\_ HNO<sub>3</sub> ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H<sub>2</sub>SO<sub>4</sub> ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7

\*\*W.Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Compliance Wells  
Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

**Laboratory Order ID: 22J1082**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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?	No
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

Spoke with Pete Nash via phone regarding sample MW-3A not enough sample volume submitted to analyze for herbicides, pesticides, or SVOCs. These were omitted from this sample. VJT 10/21/2022 1449

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## Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 11/4/2022 5:36:19PM

Client Site I.D.: Laurel Valley Compliance Wells

Submitted To: Michele Clary

Trip blank collection time and date (09/13/22 16:15) on the bottle label differs from the COC (10/20/22 14:00). The sample has been logged and labeled per the container. Pete Nash and Michael Williams notified via email.  
YO 21 OCT 2022 1527

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Compliance Wells  
 Submitted To: Michele Clary

Date Issued: 11/4/2022 5:36:19PM

**Laboratory Order ID: 22J1391**

### Sample Conditions Checklist

Samples Received at:	3.20°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





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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22J1066

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: October 20, 2022 17:18  
Date Issued: November 2, 2022 15:59  
Project Number: 2014572921.200  
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2022 17:18. 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 Enthalpy Analytical.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

Laboratory Sample ID: 22J1066-01

Client Sample ID: MW-20

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Alkalinity	01	SM22 2320B-2011	8.5		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.	0.286		0.110	0.150	1	mg/L
Nitrate+Nitrite as N	01	SM22 4500-NO3F-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".

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20	22J1066-01	Ground Water	10/20/2022 11:05	10/20/2022 17:18
Trip Blank	22J1066-02	Ground Water	10/20/2022 13:00	10/20/2022 17:18

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

Client Sample ID: MW-20

Laboratory Sample ID: 22J1066-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	01	74-84-0	RSK175M	10/24/2022 17:55	10/24/2022 17:55	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	01	74-85-1	RSK175M	10/24/2022 17:55	10/24/2022 17:55	BLOD		1.50	5.00	1	ug/L	BMR
Methane	01	74-82-8	RSK175M	10/24/2022 17:55	10/24/2022 17:55	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>01</i>	<i>102 %</i>	<i>70-130</i>	<i>10/24/2022 17:55</i>	<i>10/24/2022 17:55</i>							
<b>Wet Chemistry Analysis</b>												
Alkalinity	01	NA	SM22 2320B-2011	10/28/2022 16:36	10/28/2022 16:51	8.5		5.0	5.0	1	mg/L	AAL
Chloride	01	16887-00-6	EPA300.0 R2.1	10/22/2022 01:32	10/22/2022 01:32	2.0		0.5	1.0	1	mg/L	MGG
Nitrate as N	01	14797-55-8	Calc.	10/26/2022 14:51	10/26/2022 14:51	0.286		0.110	0.150	1	mg/L	AAL
Nitrate+Nitrite as N	01	E701177	SM22 4500-NO3F- 2011	10/26/2022 14:51	10/26/2022 14:51	0.29		0.10	0.10	1	mg/L	MKS
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	10/21/2022 16:21	10/21/2022 16:21	BLOD		0.01	0.05	1	mg/L	AAL
Sulfate	01	14808-79-8	EPA300.0 R2.1	10/22/2022 01:32	10/22/2022 01:32	BLOD		0.5	1.0	1	mg/L	MGG
Sulfide	01	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1066-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	02	74-84-0	RSK175M	10/24/2022 15:10	10/24/2022 15:10	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	02	74-85-1	RSK175M	10/24/2022 15:10	10/24/2022 15:10	BLOD		1.50	5.00	1	ug/L	BMR
Methane	02	74-82-8	RSK175M	10/24/2022 15:10	10/24/2022 15:10	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	02	102 %	70-130	10/24/2022 15:10	10/24/2022 15:10							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Blank (BFJ0906-BLK1)</b>			Prepared & Analyzed: 10/24/2022							
Ethane	ND	5.00	ug/L							
Ethene	ND	5.00	ug/L							
Methane	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<b>LCS (BFJ0906-BS1)</b>			Prepared & Analyzed: 10/24/2022							
Ethane	502	5.00	ug/L	500		100	70-130			
Ethene	454	5.00	ug/L	464		97.8	70-130			
Methane	256	5.00	ug/L	266		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<b>Duplicate (BFJ0906-DUP1)</b>			<b>Source: 22J1066-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.00	ug/L		BLOD			NA	20	
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<b>Matrix Spike (BFJ0906-MS1)</b>			<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	590	5.00	ug/L	500	BLOD	118	70-130			
Ethene	529	5.00	ug/L	464	BLOD	114	70-130			
Methane	431	5.00	ug/L	266	136	111	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>			<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	570	5.00	ug/L	500	BLOD	114	70-130	3.33	20	
Ethene	512	5.00	ug/L	464	BLOD	110	70-130	3.13	20	

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Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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**Batch BFJ0906 - SW5030B-MS**

Matrix Spike Dup (BFJ0906-MSD1)	Source: 22J1064-01		Prepared & Analyzed: 10/24/2022							
Methane	423	5.00	ug/L	266	136	108	70-130	1.92	20	
<i>Surr: Acetylene (Surr)</i>	504		ug/L	432		117	70-130			



## Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0862 - No Prep Wet Chem</b>										
<b>Blank (BFJ0862-BLK1)</b>				Prepared & Analyzed: 10/21/2022						
Nitrite as N	ND	0.05	mg/L							
<b>LCS (BFJ0862-BS1)</b>				Prepared & Analyzed: 10/21/2022						
Nitrite as N	0.11	0.05	mg/L	0.100		109	80-120			
<b>Matrix Spike (BFJ0862-MS1)</b>				Source: 22J1071-01		Prepared & Analyzed: 10/21/2022				
Nitrite as N	0.10	0.05	mg/L		BLOD		80-120			
<b>Matrix Spike Dup (BFJ0862-MSD1)</b>				Source: 22J1071-01		Prepared & Analyzed: 10/21/2022				
Nitrite as N	0.10	0.05	mg/L		BLOD		80-120	0.00	20	
<b>Batch BFJ0886 - No Prep IC</b>										
<b>Blank (BFJ0886-BLK1)</b>				Prepared & Analyzed: 10/21/2022						
Chloride	ND	1.0	mg/L							
Sulfate	ND	1.0	mg/L							
<b>LCS (BFJ0886-BS1)</b>				Prepared & Analyzed: 10/21/2022						
Sulfate	21.2	1	mg/L	20.0		106	90-110			
Chloride	20.5	1	mg/L	20.0		103	90-110			
<b>LCS Dup (BFJ0886-BSD1)</b>				Prepared & Analyzed: 10/21/2022						
Sulfate	21.4	1	mg/L	20.0		107	90-110	0.748	15	
Chloride	20.6	1	mg/L	20.0		103	90-110	0.642	15	
<b>Matrix Spike (BFJ0886-MS1)</b>				Source: 22J1066-01		Prepared & Analyzed: 10/22/2022				
Chloride	13.8	1.1	mg/L	11.1	2.0	107	90-110			
Sulfate	11.9	1.1	mg/L	11.1	BLOD	107	90-110			

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0886 - No Prep IC</b>										
<b>Matrix Spike Dup (BFJ0886-MSD1)</b>		<b>Source: 22J1066-01</b>			<b>Prepared &amp; Analyzed: 10/22/2022</b>					
Chloride	13.7	1.1	mg/L	11.1	2.0	105	90-110	1.16	15	
Sulfate	12.0	1.1	mg/L	11.1	BLOD	108	90-110	0.836	15	
<b>Batch BFJ0971 - No Prep Wet Chem</b>										
<b>Blank (BFJ0971-BLK1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Sulfide	ND	1.00	mg/L							
<b>LCS (BFJ0971-BS1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Sulfide	4.72	1	mg/L	5.00		94.4	80-120			
<b>Matrix Spike (BFJ0971-MS1)</b>		<b>Source: 22J1068-04</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	3.89	1.00	mg/L	5.00	BLOD	77.8	75-125			
<b>Matrix Spike (BFJ0971-MS2)</b>		<b>Source: 22J1082-05</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	4.91	1.00	mg/L	5.00	BLOD	98.2	75-125			
<b>Matrix Spike Dup (BFJ0971-MSD1)</b>		<b>Source: 22J1068-04</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	3.86	1.00	mg/L	5.00	BLOD	77.2	75-125	0.774	20	
<b>Matrix Spike Dup (BFJ0971-MSD2)</b>		<b>Source: 22J1082-05</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	4.94	1.00	mg/L	5.00	BLOD	98.8	75-125	0.609	20	
<b>Batch BFJ1004 - No Prep Wet Chem</b>										
<b>Blank (BFJ1004-BLK1)</b>		<b>Prepared &amp; Analyzed: 10/26/2022</b>								
Nitrate+Nitrite as N	ND	0.10	mg/L							

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ1004 - No Prep Wet Chem</b>										
<b>LCS (BFJ1004-BS1)</b>				Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.59	0.1	mg/L	2.50		104	90-110			
<b>Matrix Spike (BFJ1004-MS1)</b>				Source: 22J1140-01 Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.71	0.1	mg/L	2.50	BLOD	108	90-110			
<b>Matrix Spike Dup (BFJ1004-MSD1)</b>				Source: 22J1140-01 Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.70	0.1	mg/L	2.50	BLOD	107	90-110	0.407	20	
<b>Batch BFJ1139 - No Prep Wet Chem</b>										
<b>Blank (BFJ1139-BLK1)</b>				Prepared & Analyzed: 10/28/2022						
Alkalinity	ND	5.0	mg/L							
<b>LCS (BFJ1139-BS1)</b>				Prepared & Analyzed: 10/28/2022						
Alkalinity	50.0	5.0	mg/L	50.0		100	80-120			
<b>Duplicate (BFJ1139-DUP1)</b>				Source: 22J0857-07 Prepared & Analyzed: 10/28/2022						
Alkalinity	121	5.0	mg/L		118			2.51	20	

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### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
22J1066-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
22J1066-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
22J1066-01	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1066-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
22J1066-01	200 mL / 200 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22J1066-01	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1066-02	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

## Certificate of Analysis

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### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
BFJ0886-BLK1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-BS1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-BSD1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-MS1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-MSD1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ0862-BLK1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-BS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MRL1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MSD1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0971-BLK1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-BS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MRL1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MSD1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MSD2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ1004-BLK1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-BS1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-MRL1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167

## Certificate of Analysis

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Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ1004-MS1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-MSD1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1139-BLK1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
BFJ1139-BS1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
BFJ1139-DUP1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFJ0906-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

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## Certificate of Analysis

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### Certified Analyses included in this Report

Analyte	Certifications
<b><i>EPA300.0 R2.1 in Non-Potable Water</i></b>	
Chloride	VELAP,NCDEQ,PADEP,WVDEP
Sulfate	VELAP,NCDEQ,WVDEP
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
Ethene	VELAP
Methane	VELAP
<b><i>SM22 2320B-2011 in Non-Potable Water</i></b>	
Alkalinity	VELAP,WVDEP,PADEP
<b><i>SM22 4500-NO2B-2011 in Non-Potable Water</i></b>	
Nitrite as N	VELAP,WVDEP
<b><i>SM22 4500-NO3F-2011 in Non-Potable Water</i></b>	
Nitrate+Nitrite as N	VELAP,WVDEP
<b><i>SW9215 in Non-Potable Water</i></b>	
Sulfide	VELAP



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**Certificate of Analysis**

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Date Issued: 11/2/2022 3:59:36PM

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #12157	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

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### Qualifiers and Definitions

J The reported result is an estimated value.

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.

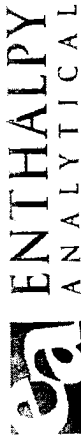
1941 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX

**ENTHALPY**  
ANALYTICAL  
formerly Air, Water & Soil Laboratories

**CHAIN OF CUSTODY**

COMPANY NAME: <b>Golder Associates</b>		INVOICE TO:		PROJECT NAME/Quote #:																																																																																																																																																																														
CONTACT: <b>Michele Clary</b>		INVOICE CONTACT:		SITE NAME: <b>Laurel Valley Corrective Action</b>																																																																																																																																																																														
ADDRESS: <b>2108 W. Laburnum Ave, Suite 200</b>		INVOICE ADDRESS:		PROJECT NUMBER: 2014572921.200																																																																																																																																																																														
PHONE #: <b>804-358-7900</b>		INVOICE PHONE #:		P.O. #:																																																																																																																																																																														
FAX #:		EMAIL:		Pretreatment Program:																																																																																																																																																																														
Is sample for compliance reporting? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Regulatory State:		Is sample from a chlorinated supply? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>																																																																																																																																																																														
PWS I.D. #:		SAMPLER SIGNATURE: <i>M. Kuy</i>		Turn Around Time: Circle <b>10</b> 5 Days or _Day(s)																																																																																																																																																																														
Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other																																																																																																																																																																																		
CLIENT SAMPLE I.D.																																																																																																																																																																																		
<table border="1"> <thead> <tr> <th rowspan="2">Grab</th> <th rowspan="2">Composite</th> <th rowspan="2">Field Filtered (Dissolved Metals)</th> <th rowspan="2">Composite Start Date</th> <th rowspan="2">Composite Start Time</th> <th rowspan="2">Grab Date or Composite Stop Date</th> <th rowspan="2">Grab Time or Composite Stop Time</th> <th rowspan="2">Time Preserved</th> <th rowspan="2">Matrix (See Codes)</th> <th rowspan="2">Number of Containers</th> <th colspan="5">ANALYSIS / (PRESERVATIVE)</th> <th rowspan="2">COMMENTS</th> </tr> <tr> <th>Alkalinity</th> <th>Nitrate (Cd)</th> <th>Chloride</th> <th>Sulfate</th> <th>Sulfide</th> </tr> </thead> <tbody> <tr> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>10/20/22</td> <td>1105</td> <td></td> <td>GW</td> <td>6</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td rowspan="2">All 5 samples preserved on ice</td> </tr> <tr> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td>10/20/22</td> <td>1300</td> <td></td> <td>GW</td> <td>2</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td rowspan="8">PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min) <b>N, GS, Fe<sup>2+</sup>: 0.0</b></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						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	Alkalinity	Nitrate (Cd)	Chloride	Sulfate	Sulfide	X					10/20/22	1105		GW	6	X	X	X	X		All 5 samples preserved on ice	X					10/20/22	1300		GW	2	X	X	X	X																	PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min) <b>N, GS, Fe<sup>2+</sup>: 0.0</b>																																																																																																									
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**GA** 22J1066  
Laurel Valley Corrective Action  
Recd: 10/20/2022 Due: 11/03/2022  
v130325002



# Sample Preservation Log

40 for MNM/05

Date Performed: 10/21/22

Analyst Performing Check:

Order ID: 2251066

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (5258270625)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH			
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH		
10	TKM																														
01																															

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_

\* pH must be adjusted between 9.3 - 9.7

\*\*W.Va only certifies DISS CrVI and not T.CrVI as an approved analyte under 40CFR136 for waste water.

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 3:59:36PM

**Laboratory Order ID: 22J1066**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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



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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22J1065

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: October 20, 2022 17:18  
Date Issued: October 31, 2022 13:56  
Project Number: 2014572921.200  
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2022 17:18. 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 Enthalpy Analytical.



**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Laboratory Sample ID: **22J1065-03**                      Client Sample ID: **CLF-S3**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	03	SW8260D	0.67	J	0.60	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".

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**Certificate of Analysis**Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-X2D	22J1065-01	Ground Water	10/19/2022 13:20	10/20/2022 17:18
CLF-S1	22J1065-02	Ground Water	10/19/2022 16:15	10/20/2022 17:18
CLF-S3	22J1065-03	Ground Water	10/19/2022 14:52	10/20/2022 17:18
Trip Blank	22J1065-04	Ground Water	09/14/2022 14:36	10/20/2022 17:18

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: MW-X2D

Laboratory Sample ID: 22J1065-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Mercury	01	7439-97-6	SW7470A	10/25/2022 11:35	10/25/2022 15:58	BLOD		0.00020	0.00020	1	mg/L	ACM
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	01	75-34-3	SW8260D	10/21/2022 17:06	10/21/2022 17:06	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	01	75-00-3	SW8260D	10/21/2022 17:06	10/21/2022 17:06	BLOD		0.70	1.00	1	ug/L	RJB
cis-1,2-Dichloroethene	01	156-59-2	SW8260D	10/21/2022 17:06	10/21/2022 17:06	BLOD		0.40	1.00	1	ug/L	RJB
trans-1,2-Dichloroethene	01	156-60-5	SW8260D	10/21/2022 17:06	10/21/2022 17:06	BLOD		0.60	1.00	1	ug/L	RJB
Trichloroethene	01	79-01-6	SW8260D	10/21/2022 17:06	10/21/2022 17:06	BLOD		0.40	1.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	01	96.1 %	70-120	10/21/2022 17:06	10/21/2022 17:06							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	01	100 %	75-120	10/21/2022 17:06	10/21/2022 17:06							
<i>Surr: Dibromofluoromethane (Surr)</i>	01	94.3 %	70-130	10/21/2022 17:06	10/21/2022 17:06							
<i>Surr: Toluene-d8 (Surr)</i>	01	100 %	70-130	10/21/2022 17:06	10/21/2022 17:06							
<b>Head Space Analysis by GC</b>												
Ethane	01	74-84-0	RSK175M	10/24/2022 16:26	10/24/2022 16:26	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	01	74-85-1	RSK175M	10/24/2022 16:26	10/24/2022 16:26	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	01	124 %	70-130	10/24/2022 16:26	10/24/2022 16:26							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 22J1065-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Mercury	02	7439-97-6	SW7470A	10/25/2022 11:35	10/25/2022 16:00	BLOD		0.00020	0.00020	1	mg/L	ACM
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	02	75-34-3	SW8260D	10/21/2022 17:29	10/21/2022 17:29	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	02	75-00-3	SW8260D	10/21/2022 17:29	10/21/2022 17:29	BLOD		0.70	1.00	1	ug/L	RJB
cis-1,2-Dichloroethene	02	156-59-2	SW8260D	10/21/2022 17:29	10/21/2022 17:29	BLOD		0.40	1.00	1	ug/L	RJB
trans-1,2-Dichloroethene	02	156-60-5	SW8260D	10/21/2022 17:29	10/21/2022 17:29	BLOD		0.60	1.00	1	ug/L	RJB
Trichloroethene	02	79-01-6	SW8260D	10/21/2022 17:29	10/21/2022 17:29	BLOD		0.40	1.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	94.5 %	70-120	10/21/2022 17:29	10/21/2022 17:29							
Surr: 4-Bromofluorobenzene (Surr)	02	101 %	75-120	10/21/2022 17:29	10/21/2022 17:29							
Surr: Dibromofluoromethane (Surr)	02	93.5 %	70-130	10/21/2022 17:29	10/21/2022 17:29							
Surr: Toluene-d8 (Surr)	02	99.4 %	70-130	10/21/2022 17:29	10/21/2022 17:29							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: CLF-S1

Laboratory Sample ID: 22J1065-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	02	74-84-0	RSK175M	10/24/2022 16:38	10/24/2022 16:38	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	02	74-85-1	RSK175M	10/24/2022 16:38	10/24/2022 16:38	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	02	117 %	70-130	10/24/2022 16:38	10/24/2022 16:38							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22J1065-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Mercury	03	7439-97-6	SW7470A	10/25/2022 11:35	10/25/2022 16:06	BLOD		0.00020	0.00020	1	mg/L	ACM

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22J1065-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	03	75-34-3	SW8260D	10/21/2022 17:53	10/21/2022 17:53	0.67	J	0.60	1.00	1	ug/L	RJB
Chloroethane	03	75-00-3	SW8260D	10/21/2022 17:53	10/21/2022 17:53	BLOD		0.70	1.00	1	ug/L	RJB
cis-1,2-Dichloroethene	03	156-59-2	SW8260D	10/21/2022 17:53	10/21/2022 17:53	BLOD		0.40	1.00	1	ug/L	RJB
trans-1,2-Dichloroethene	03	156-60-5	SW8260D	10/21/2022 17:53	10/21/2022 17:53	BLOD		0.60	1.00	1	ug/L	RJB
Trichloroethene	03	79-01-6	SW8260D	10/21/2022 17:53	10/21/2022 17:53	BLOD		0.40	1.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	98.6 %	70-120	10/21/2022 17:53	10/21/2022 17:53							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	100 %	75-120	10/21/2022 17:53	10/21/2022 17:53							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	94.7 %	70-130	10/21/2022 17:53	10/21/2022 17:53							
<i>Surr: Toluene-d8 (Surr)</i>	03	100 %	70-130	10/21/2022 17:53	10/21/2022 17:53							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: CLF-S3

Laboratory Sample ID: 22J1065-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	03	74-84-0	RSK175M	10/24/2022 16:51	10/24/2022 16:51	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	03	74-85-1	RSK175M	10/24/2022 16:51	10/24/2022 16:51	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	03	113 %	70-130	10/24/2022 16:51	10/24/2022 16:51							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1065-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	04	75-34-3	SW8260D	10/21/2022 16:20	10/21/2022 16:20	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	04	75-00-3	SW8260D	10/21/2022 16:20	10/21/2022 16:20	BLOD		0.70	1.00	1	ug/L	RJB
cis-1,2-Dichloroethene	04	156-59-2	SW8260D	10/21/2022 16:20	10/21/2022 16:20	BLOD		0.40	1.00	1	ug/L	RJB
trans-1,2-Dichloroethene	04	156-60-5	SW8260D	10/21/2022 16:20	10/21/2022 16:20	BLOD		0.60	1.00	1	ug/L	RJB
Trichloroethene	04	79-01-6	SW8260D	10/21/2022 16:20	10/21/2022 16:20	BLOD		0.40	1.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	04	95.2 %	70-120	10/21/2022 16:20	10/21/2022 16:20							
Surr: 4-Bromofluorobenzene (Surr)	04	100 %	75-120	10/21/2022 16:20	10/21/2022 16:20							
Surr: Dibromofluoromethane (Surr)	04	93.8 %	70-130	10/21/2022 16:20	10/21/2022 16:20							
Surr: Toluene-d8 (Surr)	04	99.9 %	70-130	10/21/2022 16:20	10/21/2022 16:20							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1065-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	04	74-84-0	RSK175M	10/24/2022 14:57	10/24/2022 14:57	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	04	74-85-1	RSK175M	10/24/2022 14:57	10/24/2022 14:57	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	04	92.0 %	70-130	10/24/2022 14:57	10/24/2022 14:57							

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BFJ0942 - SW7470A

**Blank (BFJ0942-BLK1)**

Prepared &amp; Analyzed: 10/25/2022

Mercury ND 0.00020 mg/L

**LCS (BFJ0942-BS1)**

Prepared &amp; Analyzed: 10/25/2022

Mercury 0.00238 0.00020 mg/L 0.00250 95.1 80-120

**Matrix Spike (BFJ0942-MS1)**

Source: 22J0745-08

Prepared &amp; Analyzed: 10/25/2022

Mercury 0.00495 0.00020 mg/L 0.00250 0.00221 110 80-120

**Matrix Spike Dup (BFJ0942-MSD1)**

Source: 22J0745-08

Prepared &amp; Analyzed: 10/25/2022

Mercury 0.00503 0.00020 mg/L 0.00250 0.00221 113 80-120 1.57 20

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0848 - SW5030B-MS</b>										
<b>Blank (BFJ0848-BLK1)</b>			Prepared & Analyzed: 10/21/2022							
1,1-Dichloroethane	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	47.2		ug/L	50.0		94.4	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.0		ug/L	50.0		99.9	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.6		ug/L	50.0		93.3	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.7		ug/L	50.0		99.4	70-130			
<b>LCS (BFJ0848-BS1)</b>			Prepared & Analyzed: 10/21/2022							
1,1-Dichloroethane	44.2	1	ug/L	50.0		88.4	70-135			
Chloroethane	40.7	1	ug/L	50.0		81.4	60-135			
cis-1,2-Dichloroethylene	41.3	1	ug/L	50.0		82.5	70-125			
trans-1,2-Dichloroethylene	40.0	1	ug/L	50.0		79.9	60-140			
Trichloroethylene	44.7	1	ug/L	50.0		89.4	70-125			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	44.8		ug/L	50.0		89.7	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.5		ug/L	50.0		103	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	44.7		ug/L	50.0		89.3	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.6		ug/L	50.0		97.2	70-130			
<b>Duplicate (BFJ0848-DUP1)</b>		<b>Source: 22J1047-07</b>			Prepared & Analyzed: 10/21/2022					
1,1-Dichloroethane	ND	5.00	ug/L		BLOD			NA	30	
Chloroethane	ND	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	5.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	5.00	ug/L		BLOD			NA	30	

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0848 - SW5030B-MS

<b>Duplicate (BFJ0848-DUP1)</b>		<b>Source: 22J1047-07</b>			<b>Prepared &amp; Analyzed: 10/21/2022</b>					
Trichloroethylene	ND	5.00	ug/L		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	47.6		ug/L	50.0		95.2	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.8		ug/L	50.0		99.6	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.9		ug/L	50.0		93.8	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.8		ug/L	50.0		99.7	70-130			
<b>Matrix Spike (BFJ0848-MS1)</b>		<b>Source: 22J1043-07</b>			<b>Prepared &amp; Analyzed: 10/21/2022</b>					
1,1-Dichloroethane	45.2	1	ug/L	50.0	BLOD	90.5	70-135			
Chloroethane	42.1	1	ug/L	50.0	BLOD	84.2	60-135			
cis-1,2-Dichloroethylene	42.9	1	ug/L	50.0	BLOD	85.7	70-125			
trans-1,2-Dichloroethylene	41.9	1	ug/L	50.0	BLOD	83.7	60-140			
Trichloroethylene	47.4	1	ug/L	50.0	BLOD	94.7	70-125			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	45.3		ug/L	50.0		90.6	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.2		ug/L	50.0		100	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	44.3		ug/L	50.0		88.5	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.9		ug/L	50.0		97.9	70-130			

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Blank (BFJ0906-BLK1)</b>			Prepared & Analyzed: 10/24/2022							
Ethane	ND	5.00	ug/L							
Ethene	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<b>LCS (BFJ0906-BS1)</b>			Prepared & Analyzed: 10/24/2022							
Ethane	502	5.00	ug/L	500		100	70-130			
Ethene	454	5.00	ug/L	464		97.8	70-130			
Methane	256	5.00	ug/L	266		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<b>Duplicate (BFJ0906-DUP1)</b>			<b>Source: 22J1066-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.00	ug/L		BLOD			NA	20	
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<b>Matrix Spike (BFJ0906-MS1)</b>			<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	590	5.00	ug/L	500	BLOD	118	70-130			
Ethene	529	5.00	ug/L	464	BLOD	114	70-130			
Methane	431	5.00	ug/L	266	136	111	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>			<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022					
Ethane	570	5.00	ug/L	500	BLOD	114	70-130	3.33	20	
Ethene	512	5.00	ug/L	464	BLOD	110	70-130	3.13	20	
Methane	423	5.00	ug/L	266	136	108	70-130	1.92	20	



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0906 - SW5030B-MS

Matrix Spike Dup (BFJ0906-MSD1)      Source: 22J1064-01      Prepared &amp; Analyzed: 10/24/2022

<i>Surr: Acetylene (Surr)</i>	504	ug/L	432	117	70-130
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### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22J1065-01	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1065-02	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1065-03	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1065-04	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1065-01	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1065-02	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1065-03	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1065-04	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: SW7470A</b>		
22J1065-01	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162
22J1065-02	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162
22J1065-03	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFJ0848-BLK1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-BS1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-DUP1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-MS1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0906-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>SW7470A</b>	
BFJ0942-BLK1	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162
BFJ0942-BS1	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162
BFJ0942-MS1	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162
BFJ0942-MSD1	20.0 mL / 20.0 mL	SW7470A	BFJ0942	SFJ0966	AJ20162

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
Ethene	VELAP
<b><i>SW7470A in Non-Potable Water</i></b>	
Mercury	VELAP,NCDEQ,WVDEP
<b><i>SW8260D in Non-Potable Water</i></b>	
1,1-Dichloroethane	VELAP,NCDEQ,WVDEP
Chloroethane	VELAP,NCDEQ,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
Trichloroethylene	VELAP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #12098	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

### Qualifiers and Definitions

J The reported result is an estimated value.

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 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX



**CHAIN OF CUSTODY**

COMPANY NAME: **Golder Associates** INVOICE TO: \_\_\_\_\_  
 CONTACT: **Michele Clary** INVOICE CONTACT: \_\_\_\_\_  
 ADDRESS: **2108 W. Laburnum Ave, Suite 200** INVOICE ADDRESS: \_\_\_\_\_  
 PHONE #: **804-358-7900** INVOICE PHONE #: \_\_\_\_\_  
 FAX #: \_\_\_\_\_ EMAIL: \_\_\_\_\_  
 Is sample for compliance reporting? YES  NO  Regulatory State: \_\_\_\_\_ Is sample from a chlorinated supply? YES  NO  PWS I.D. #: \_\_\_\_\_  
 SAMPLER NAME (PRINT): **Vince Strum** SAMPLER SIGNATURE: *Vince Strum* Turn Around Time: Circle **10** 5 Days or Day(s)

CLIENT SAMPLE I.D.	Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other		Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)				COMMENTS		
	Grab	Composite						Field Filtered (Dissolved Metals)	Grab Start Date	Grab Start Time	Composite Start Date		Composite Start Time	Grab Date or Composite Stop Date
1) MW-X2D	X					GW	7	X	X	X	X	X	N/C	
2) CLF-S1	X					GW	7	X	X	X	X	X	N/C	
3) CLF-S3	X					GW	7	X	X	X	X	X	N/C	
4) Trip Blank	X					GW	4	X	X	X	X	X	-All samples preserved on ice	
5)														
6)														
7)														
8)														
9)														

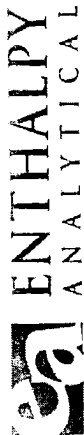
PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)  
 N/C  
 N/C  
 N/C  
 -All samples preserved on ice

LAB USE ONLY Therm ID: **871** COOLER TEMP **5.7** °C  
 Custody Seals used and intact?  (Y/N) Received on ice?  (Y/N)

**GA** 22J1065  
**Laurel Valley Corrective Action**  
 Recd: 10/20/2022 Due: 11/03/2022

ACQUISISHED: **10/20/22 @ 1715** RECEIVED: **JH 10/20/22 1718**  
 ACQUISISHED: **KW 10/20/22 @ 1715** RECEIVED: \_\_\_\_\_  
 ACQUISISHED: \_\_\_\_\_ RECEIVED: \_\_\_\_\_

Page 21 of 24



# Sample Preservation Log

*ALS*

Order ID: 22J1065 Date Performed: 10/21/22 Analyst Performing Check: \_\_\_\_\_

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (525/270/525)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH		
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	final + or -	Res. Cl	final + or -	Received	Final pH	Received	Final pH	Received	Final pH	Other
01 D		X																												
02 D		X																												
03 D		X																												

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 \*pH must be adjusted between 9.3 - 9.7  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH ID: \_\_\_\_\_

\*\*We only certify DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.



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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:58PM

**Laboratory Order ID: 22J1065**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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

Trip blank collection time and date (09/14/22 14:36) on the bottle label differs from the COC (10/19/22 13:00). The sample has been logged and labeled per the container. Peter Nash and Michael Williams notified via email.  
 YO 21 OCT 2022 1526



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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22J1064

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: October 20, 2022 17:18  
Date Issued: November 2, 2022 16:00  
Project Number: 2014572921.200  
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2022 17:18. 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 Enthalpy Analytical.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

**Laboratory Sample ID: 22J1064-01                      Client Sample ID: MW-X2**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	01	RSK175M	136		1.5	5.0	1	ug/L
Alkalinity	01	SM22 2320B-2011	50.0		5.0	5.0	1	mg/L
Chloride	01	EPA300.0 R2.1	105		0.5	1.0	1	mg/L
Nitrate as N	01	Calc.	0.174		0.110	0.150	1	mg/L
Nitrate+Nitrite as N	01	SM22 4500-NO3F-2011	0.17		0.10	0.10	1	mg/L
Sulfate	01	EPA300.0 R2.1	1.3		0.5	1.0	1	mg/L

**Laboratory Sample ID: 22J1064-02                      Client Sample ID: CLF-15A**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	02	RSK175M	1230		1.5	5.0	1	ug/L
Alkalinity	02	SM22 2320B-2011	156		5.0	5.0	1	mg/L
Chloride	02	EPA300.0 R2.1	227		0.5	1.0	1	mg/L
Sulfate	02	EPA300.0 R2.1	82.9		0.5	1.0	1	mg/L

**Laboratory Sample ID: 22J1064-03                      Client Sample ID: PZ-4E**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Methane	03RE1	RSK175M	2790		7.5	25.0	5	ug/L
Alkalinity	03	SM22 2320B-2011	24.0		5.0	5.0	1	mg/L
Chloride	03	EPA300.0 R2.1	2.6		0.5	1.0	1	mg/L
Sulfate	03	EPA300.0 R2.1	5.3		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".

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**Certificate of Analysis**Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-X2	22J1064-01	Ground Water	10/20/2022 11:12	10/20/2022 17:18
CLF-15A	22J1064-02	Ground Water	10/20/2022 12:46	10/20/2022 17:18
PZ-4E	22J1064-03	Ground Water	10/20/2022 13:45	10/20/2022 17:18
Trip Blank	22J1064-04	Ground Water	10/20/2022 12:00	10/20/2022 17:18

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

Client Sample ID: MW-X2

Laboratory Sample ID: 22J1064-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Methane	01	74-82-8	RSK175M	10/24/2022 15:48	10/24/2022 15:48	136		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>01</i>	<i>118 %</i>	<i>70-130</i>	<i>10/24/2022 15:48</i>	<i>10/24/2022 15:48</i>							
<b>Wet Chemistry Analysis</b>												
Alkalinity	01	NA	SM22 2320B-2011	10/28/2022 16:36	10/28/2022 16:51	50.0		5.0	5.0	1	mg/L	AAL
Chloride	01	16887-00-6	EPA300.0 R2.1	10/22/2022 00:09	10/22/2022 00:09	105		0.5	1.0	1	mg/L	MGG
Nitrate as N	01	14797-55-8	Calc.	10/26/2022 14:51	10/26/2022 14:51	0.174		0.110	0.150	1	mg/L	AAL
Nitrate+Nitrite as N	01	E701177	SM22 4500-NO3F- 2011	10/26/2022 14:51	10/26/2022 14:51	0.17		0.10	0.10	1	mg/L	MKS
Nitrite as N	01	14797-65-0	SM22 4500-NO2B- 2011	10/21/2022 16:21	10/21/2022 16:21	BLOD		0.01	0.05	1	mg/L	AAL
Sulfate	01	14808-79-8	EPA300.0 R2.1	10/22/2022 00:09	10/22/2022 00:09	1.3		0.5	1.0	1	mg/L	MGG
Sulfide	01	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
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Date Issued: 11/2/2022 4:00:09PM

Client Sample ID: CLF-15A

Laboratory Sample ID: 22J1064-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
<b>Methane</b>	02	74-82-8	RSK175M	10/24/2022 16:00	10/24/2022 16:00	1230		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	02	115 %	70-130	10/24/2022 16:00	10/24/2022 16:00							
<b>Wet Chemistry Analysis</b>												
<b>Alkalinity</b>	02	NA	SM22 2320B-2011	10/28/2022 16:36	10/28/2022 16:51	156		5.0	5.0	1	mg/L	AAL
<b>Chloride</b>	02	16887-00-6	EPA300.0 R2.1	10/22/2022 00:37	10/22/2022 00:37	227		0.5	1.0	1	mg/L	MGG
Nitrate as N	02	14797-55-8	Calc.	10/26/2022 14:51	10/26/2022 14:51	BLOD		0.110	0.150	1	mg/L	AAL
Nitrate+Nitrite as N	02	E701177	SM22 4500-NO3F- 2011	10/26/2022 14:51	10/26/2022 14:51	BLOD		0.10	0.10	1	mg/L	MKS
Nitrite as N	02	14797-65-0	SM22 4500-NO2B- 2011	10/21/2022 16:21	10/21/2022 16:21	BLOD		0.01	0.05	1	mg/L	AAL
<b>Sulfate</b>	02	14808-79-8	EPA300.0 R2.1	10/22/2022 00:37	10/22/2022 00:37	82.9		0.5	1.0	1	mg/L	MGG
Sulfide	02	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL



## Certificate of Analysis

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Date Issued: 11/2/2022 4:00:09PM

Client Sample ID: PZ-4E

Laboratory Sample ID: 22J1064-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Methane	03RE1	74-82-8	RSK175M	10/25/2022 15:39	10/25/2022 15:39	2790		7.5	25.0	5	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	<i>03RE1</i>	<i>122 %</i>	<i>70-130</i>	<i>10/25/2022 15:39</i>	<i>10/25/2022 15:39</i>							
<b>Wet Chemistry Analysis</b>												
Alkalinity	03	NA	SM22 2320B-2011	10/28/2022 16:36	10/28/2022 16:51	24.0		5.0	5.0	1	mg/L	AAL
Chloride	03	16887-00-6	EPA300.0 R2.1	10/22/2022 01:05	10/22/2022 01:05	2.6		0.5	1.0	1	mg/L	MGG
Nitrate as N	03	14797-55-8	Calc.	10/26/2022 14:51	10/26/2022 14:51	BLOD		0.110	0.150	1	mg/L	AAL
Nitrate+Nitrite as N	03	E701177	SM22 4500-NO3F- 2011	10/26/2022 14:51	10/26/2022 14:51	BLOD		0.10	0.10	1	mg/L	MKS
Nitrite as N	03	14797-65-0	SM22 4500-NO2B- 2011	10/21/2022 16:21	10/21/2022 16:21	BLOD		0.01	0.05	1	mg/L	AAL
Sulfate	03	14808-79-8	EPA300.0 R2.1	10/22/2022 01:05	10/22/2022 01:05	5.3		0.5	1.0	1	mg/L	MGG
Sulfide	03	18496-25-8	SW9215	10/25/2022 16:03	10/25/2022 16:03	BLOD		0.80	1.00	1	mg/L	AAL

### Certificate of Analysis

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Date Issued: 11/2/2022 4:00:09PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1064-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	04	74-84-0	RSK175M	10/24/2022 15:22	10/24/2022 15:22	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	04	74-85-1	RSK175M	10/24/2022 15:22	10/24/2022 15:22	BLOD		1.50	5.00	1	ug/L	BMR
Methane	04	74-82-8	RSK175M	10/24/2022 15:22	10/24/2022 15:22	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	04	109 %	70-130	10/24/2022 15:22	10/24/2022 15:22							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Blank (BFJ0906-BLK1)</b>										
Prepared & Analyzed: 10/24/2022										
Ethane	ND	5.00	ug/L							
Methane	ND	5.0	ug/L							
Ethene	ND	5.00	ug/L							
Methane	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<b>LCS (BFJ0906-BS1)</b>										
Prepared & Analyzed: 10/24/2022										
Methane	256	5.0	ug/L	266		96.2	70-130			
Ethane	502	5.00	ug/L	500		100	70-130			
Ethene	454	5.00	ug/L	464		97.8	70-130			
Methane	256	5.00	ug/L	266		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<b>Duplicate (BFJ0906-DUP1)</b>										
Source: 22J1066-01 Prepared & Analyzed: 10/24/2022										
Methane	ND	5.0	ug/L		BLOD			NA	20	
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.00	ug/L		BLOD			NA	20	
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<b>Matrix Spike (BFJ0906-MS1)</b>										
Source: 22J1064-01 Prepared & Analyzed: 10/24/2022										
Methane	431	5.0	ug/L	266	136	111	70-130			
Ethane	590	5.00	ug/L	500	BLOD	118	70-130			

### Certificate of Analysis

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Date Issued: 11/2/2022 4:00:09PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Matrix Spike (BFJ0906-MS1)</b>		<b>Source: 22J1064-01</b>			<b>Prepared &amp; Analyzed: 10/24/2022</b>					
Ethene	529	5.00	ug/L	464	BLOD	114	70-130			
Methane	431	5.00	ug/L	266	136	111	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>		<b>Source: 22J1064-01</b>			<b>Prepared &amp; Analyzed: 10/24/2022</b>					
Ethane	570	5.00	ug/L	500	BLOD	114	70-130	3.33	20	
Methane	423	5.0	ug/L	266	136	108	70-130	1.92	20	
Ethene	512	5.00	ug/L	464	BLOD	110	70-130	3.13	20	
Methane	423	5.00	ug/L	266	136	108	70-130	1.92	20	
<i>Surr: Acetylene (Surr)</i>	504		ug/L	432		117	70-130			
<i>Surr: Acetylene (Surr)</i>	504		ug/L	432		117	70-130			
<b>Batch BFJ0959 - SW5030B-MS</b>										
<b>Blank (BFJ0959-BLK1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Methane	ND	5.0	ug/L							
<i>Surr: Acetylene (Surr)</i>	452		ug/L	432		105	70-130			
<b>LCS (BFJ0959-BS1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Methane	269	5.0	ug/L	266		101	70-130			
<i>Surr: Acetylene (Surr)</i>	484		ug/L	432		112	70-130			
<b>Duplicate (BFJ0959-DUP1)</b>		<b>Source: 22J1069-06</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Methane	1590	5.0	ug/L		1660			3.90	20	
<i>Surr: Acetylene (Surr)</i>	597		ug/L	432		138	70-130			S

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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Date Issued: 11/2/2022 4:00:09PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0959 - SW5030B-MS</b>										
<b>Matrix Spike (BFJ0959-MS1)</b>										
	<b>Source: 22J1122-01</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>						
Methane	3800	5.0	ug/L	266	4480	-255	70-130			M
<i>Surr: Acetylene (Surr)</i>	476		ug/L	432		110	70-130			
<b>Matrix Spike Dup (BFJ0959-MSD1)</b>										
	<b>Source: 22J1122-01</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>						
Methane	4460	5.0	ug/L	266	4480	-7.97	70-130	15.9	20	M
<i>Surr: Acetylene (Surr)</i>	537		ug/L	432		124	70-130			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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Date Issued: 11/2/2022 4:00:09PM

Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0862 - No Prep Wet Chem</b>										
<b>Blank (BFJ0862-BLK1)</b>				Prepared & Analyzed: 10/21/2022						
Nitrite as N	ND	0.05	mg/L							
<b>LCS (BFJ0862-BS1)</b>				Prepared & Analyzed: 10/21/2022						
Nitrite as N	0.11	0.05	mg/L	0.100		109	80-120			
<b>Matrix Spike (BFJ0862-MS1)</b>				Source: 22J1071-01 Prepared & Analyzed: 10/21/2022						
Nitrite as N	0.10	0.05	mg/L		BLOD		80-120			
<b>Matrix Spike Dup (BFJ0862-MSD1)</b>				Source: 22J1071-01 Prepared & Analyzed: 10/21/2022						
Nitrite as N	0.10	0.05	mg/L		BLOD		80-120	0.00	20	
<b>Batch BFJ0886 - No Prep IC</b>										
<b>Blank (BFJ0886-BLK1)</b>				Prepared & Analyzed: 10/21/2022						
Chloride	ND	1.0	mg/L							
Sulfate	ND	1.0	mg/L							
<b>LCS (BFJ0886-BS1)</b>				Prepared & Analyzed: 10/21/2022						
Chloride	20.5	1	mg/L	20.0		103	90-110			
Sulfate	21.2	1	mg/L	20.0		106	90-110			
<b>LCS Dup (BFJ0886-BSD1)</b>				Prepared & Analyzed: 10/21/2022						
Sulfate	21.4	1	mg/L	20.0		107	90-110	0.748	15	
Chloride	20.6	1	mg/L	20.0		103	90-110	0.642	15	
<b>Matrix Spike (BFJ0886-MS1)</b>				Source: 22J1066-01 Prepared & Analyzed: 10/22/2022						
Chloride	13.8	1.1	mg/L	11.1	2.0	107	90-110			
Sulfate	11.9	1.1	mg/L	11.1	BLOD	107	90-110			

## Certificate of Analysis

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Wet Chemistry Analysis - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0886 - No Prep IC</b>										
<b>Matrix Spike Dup (BFJ0886-MSD1)</b>		<b>Source: 22J1066-01</b>			<b>Prepared &amp; Analyzed: 10/22/2022</b>					
Chloride	13.7	1.1	mg/L	11.1	2.0	105	90-110	1.16	15	
Sulfate	12.0	1.1	mg/L	11.1	BLOD	108	90-110	0.836	15	
<b>Batch BFJ0971 - No Prep Wet Chem</b>										
<b>Blank (BFJ0971-BLK1)</b>					<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	ND	1.00	mg/L							
<b>LCS (BFJ0971-BS1)</b>					<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	4.72	1	mg/L	5.00		94.4	80-120			
<b>Matrix Spike (BFJ0971-MS1)</b>		<b>Source: 22J1068-04</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	3.89	1.00	mg/L	5.00	BLOD	77.8	75-125			
<b>Matrix Spike (BFJ0971-MS2)</b>		<b>Source: 22J1082-05</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	4.91	1.00	mg/L	5.00	BLOD	98.2	75-125			
<b>Matrix Spike Dup (BFJ0971-MSD1)</b>		<b>Source: 22J1068-04</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	3.86	1.00	mg/L	5.00	BLOD	77.2	75-125	0.774	20	
<b>Matrix Spike Dup (BFJ0971-MSD2)</b>		<b>Source: 22J1082-05</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Sulfide	4.94	1.00	mg/L	5.00	BLOD	98.8	75-125	0.609	20	
<b>Batch BFJ1004 - No Prep Wet Chem</b>										
<b>Blank (BFJ1004-BLK1)</b>					<b>Prepared &amp; Analyzed: 10/26/2022</b>					
Nitrate+Nitrite as N	ND	0.10	mg/L							



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Wet Chemistry Analysis - Quality Control  
 Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ1004 - No Prep Wet Chem</b>										
<b>LCS (BFJ1004-BS1)</b>				Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.59	0.1	mg/L	2.50		104	90-110			
<b>Matrix Spike (BFJ1004-MS1)</b>				Source: 22J1140-01 Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.71	0.1	mg/L	2.50	BLOD	108	90-110			
<b>Matrix Spike Dup (BFJ1004-MSD1)</b>				Source: 22J1140-01 Prepared & Analyzed: 10/26/2022						
Nitrate+Nitrite as N	2.70	0.1	mg/L	2.50	BLOD	107	90-110	0.407	20	
<b>Batch BFJ1139 - No Prep Wet Chem</b>										
<b>Blank (BFJ1139-BLK1)</b>				Prepared & Analyzed: 10/28/2022						
Alkalinity	ND	5.0	mg/L							
<b>LCS (BFJ1139-BS1)</b>				Prepared & Analyzed: 10/28/2022						
Alkalinity	50.0	5.0	mg/L	50.0		100	80-120			
<b>Duplicate (BFJ1139-DUP1)</b>				Source: 22J0857-07 Prepared & Analyzed: 10/28/2022						
Alkalinity	121	5.0	mg/L		118			2.51	20	

## Certificate of Analysis

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Date Issued: 11/2/2022 4:00:09PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
22J1064-01	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
22J1064-02	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
22J1064-03	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
22J1064-01	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
22J1064-02	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
22J1064-03	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
22J1064-01	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1064-02	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1064-03	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
22J1064-01	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
22J1064-02	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
22J1064-03	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
22J1064-01	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
22J1064-02	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
22J1064-03	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22J1064-01	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1064-02	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1064-03	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1064-04	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Head Space Analysis by GC			Preparation Method:	SW5030B-MS	
22J1064-03RE1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep IC</b>	
BFJ0886-BLK1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-BS1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-BSD1	1.00 mL / 1.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-MS1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125
BFJ0886-MSD1	4.50 mL / 5.00 mL	EPA300.0 R2.1	BFJ0886	SFJ0850	AD20125

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ0862-BLK1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-BS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MRL1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MS1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0862-MSD1	25.0 mL / 25.0 mL	SM22 4500-NO2B-2011	BFJ0862	SFJ0822	AJ20138
BFJ0971-BLK1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-BS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MRL1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MS2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MSD1	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ0971-MSD2	6.00 mL / 6.00 mL	SW9215	BFJ0971	SFJ0931	
BFJ1004-BLK1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-BS1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-MRL1	5.00 mL / 5.00 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167

## Certificate of Analysis

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 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>			<b>Preparation Method:</b>	<b>No Prep Wet Chem</b>	
BFJ1004-MS1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1004-MSD1	10.0 mL / 10.0 mL	SM22 4500-NO3F-2011	BFJ1004	SFJ0974	AJ20167
BFJ1139-BLK1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
BFJ1139-BS1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048
BFJ1139-DUP1	50.0 mL / 50.0 mL	SM22 2320B-2011	BFJ1139	SFJ1106	AJ20048

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFJ0906-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0959-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>EPA300.0 R2.1 in Non-Potable Water</i></b>	
Chloride	VELAP,NCDEQ,PADEP,WVDEP
Sulfate	VELAP,NCDEQ,WVDEP
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
Methane	VELAP
Ethene	VELAP
Methane	VELAP
<b><i>SM22 2320B-2011 in Non-Potable Water</i></b>	
Alkalinity	VELAP,WVDEP,PADEP
<b><i>SM22 4500-NO2B-2011 in Non-Potable Water</i></b>	
Nitrite as N	VELAP,WVDEP
<b><i>SM22 4500-NO3F-2011 in Non-Potable Water</i></b>	
Nitrate+Nitrite as N	VELAP,WVDEP
<b><i>SW9215 in Non-Potable Water</i></b>	
Sulfide	VELAP

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #12157	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022



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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

### Qualifiers and Definitions

J	The reported result is an estimated value.
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.

1941 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX

CHAIN OF CUSTODY



COMPANY NAME: **Golder Associates**  
 CONTACT: **Michele Clary**  
 ADDRESS: **2108 W. Laburnum Ave, Suite 200**  
 PHONE #: **804-358-7900**  
 FAX #: **804-358-7900**  
 EMAIL: \_\_\_\_\_  
 Is sample for compliance reporting? YES  NO  Regulatory State: \_\_\_\_\_  
 Is sample from a chlorinated supply? YES  NO  PWS I.D. #: \_\_\_\_\_  
 SAMPLER NAME (PRINT): **V. Shyam** SAMPLER SIGNATURE: *V. Shyam* Turn Around Time: Circle **10** 5 Days or \_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	
											Nitrate (Cd)	Alkalinity	Chloride	Methane RSK175		Sulfate
1) MW-X2	X			10/20/22		10/20/22	1112		GW	6	X	X	X	X		All samples preserved on ice
2) CLF-15A	X			10/20/22		10/20/22	1246		GW	6	X	X	X	X		
3) PZ-4E	X			10/20/22		10/20/22	1345		GW	6	X	X	X	X		
4) Trip Blank	X			10/20/22		10/20/22	1200		GW	2						
5)																PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min) N, G, S; Fe <sup>2+</sup> : 1-6 N, G, S; Fe <sup>2+</sup> : 3-0 N, G, S; Fe <sup>2+</sup> : 2-0
6)																
7)																
8)																
9)																

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

LAB USE ONLY Therm ID: **271** COOLER TEMP **5.7** °C  
 Custody Seals used and intact?  (N) Received on ice?  (N)

QC Data Package  Level III  Level IV

RECEIVED: *J.A.* 10/20/22 1718 DATE / TIME  
 RECEIVED: \_\_\_\_\_ DATE / TIME  
 RECEIVED: \_\_\_\_\_ DATE / TIME

GA 22J1064  
 Laurel Valley Corrective Action  
 Recd: 10/20/2022 Due: 11/03/2022



# Sample Preservation Log

NO for MM/DDL5

Date Performed: 10/2/22

Analyst Performing Check: \_\_\_\_\_

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (525/270/625)		CrVI **		Pest/PCB (508) / SVOC(525)		pH as Received		Final pH				
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	Received Res. Cl	Final + or -	
01	7777																															
01	7777			X										X																		
02	7777			X										X																		
03	7777			X										X																		
03	7777																															

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_ \* pH must be adjusted between 9.3 - 9.7  
 HCL 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.

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 11/2/2022 4:00:09PM

**Laboratory Order ID: 22J1064**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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



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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22J1069

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: October 20, 2022 17:18  
Date Issued: October 31, 2022 13:55  
Project Number: 2014572921.200  
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2022 17:18. 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 Enthalpy Analytical.

**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

**Laboratory Sample ID: 22J1069-01**      **Client Sample ID: MW-1C**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	01	SW6010D	0.0592		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	01	SW8260D	12.7		0.60	1.00	1	ug/L
Chloroethane	01	SW8260D	1.61		0.70	1.00	1	ug/L
Trichloroethene	01	SW8260D	0.63	J	0.40	1.00	1	ug/L
Vinyl chloride	01	SW8260D	3.45		0.50	0.50	1	ug/L
Ethane	01	RSK175M	4.06	J	1.50	5.00	1	ug/L

**Laboratory Sample ID: 22J1069-02**      **Client Sample ID: MW-1D**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW6010D	0.0322		0.0030	0.0040	1	mg/L
Vinyl chloride	02	SW8260D	1.77		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22J1069-03**      **Client Sample ID: MW-1E**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Chloroethane	03	SW8260D	1.14		0.70	1.00	1	ug/L
Vinyl chloride	03	SW8260D	0.71		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22J1069-04**      **Client Sample ID: MW-1F**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	04	SW8260D	3.22		0.60	1.00	1	ug/L
Trichloroethene	04	SW8260D	2.09		0.40	1.00	1	ug/L
Vinyl chloride	04	SW8260D	3.73		0.50	0.50	1	ug/L



**Analysis Detects Report**

Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

**Laboratory Sample ID: 22J1069-05                      Client Sample ID: MW-1G**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Chloroethane	05	SW8260D	2.04		0.70	1.00	1	ug/L
Vinyl chloride	05	SW8260D	0.67		0.50	0.50	1	ug/L

**Laboratory Sample ID: 22J1069-06                      Client Sample ID: MW-1H**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
1,1-Dichloroethane	06	SW8260D	2.69		0.60	1.00	1	ug/L
Ethane	06	RSK175M	6.61		1.50	5.00	1	ug/L

**Laboratory Sample ID: 22J1069-08                      Client Sample ID: MW-3**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	08	SW6010D	0.0249		0.0030	0.0040	1	mg/L

**Laboratory Sample ID: 22J1069-09                      Client Sample ID: MW-5**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	09	SW6010D	0.0695		0.0030	0.0040	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".

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1C	22J1069-01	Ground Water	10/18/2022 12:30	10/20/2022 17:18
MW-1D	22J1069-02	Ground Water	10/18/2022 14:16	10/20/2022 17:18
MW-1E	22J1069-03	Ground Water	10/18/2022 16:35	10/20/2022 17:18
MW-1F	22J1069-04	Ground Water	10/18/2022 14:30	10/20/2022 17:18
MW-1G	22J1069-05	Ground Water	10/18/2022 16:15	10/20/2022 17:18
MW-1H	22J1069-06	Ground Water	10/19/2022 10:25	10/20/2022 17:18
MW-1I	22J1069-07	Ground Water	10/19/2022 10:52	10/20/2022 17:18
MW-3	22J1069-08	Ground Water	10/18/2022 14:53	10/20/2022 17:18
MW-5	22J1069-09	Ground Water	10/19/2022 09:35	10/20/2022 17:18
Trip Blank	22J1069-10	Ground Water	09/14/2022 14:36	10/20/2022 17:18

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1C

Laboratory Sample ID: 22J1069-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	01	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:01	0.0592		0.0030	0.0040	1	mg/L	AB
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	01	75-34-3	SW8260D	10/24/2022 14:23	10/24/2022 14:23	12.7		0.60	1.00	1	ug/L	RJB
Chloroethane	01	75-00-3	SW8260D	10/24/2022 14:23	10/24/2022 14:23	1.61		0.70	1.00	1	ug/L	RJB
Trichloroethene	01	79-01-6	SW8260D	10/24/2022 14:23	10/24/2022 14:23	0.63	J	0.40	1.00	1	ug/L	RJB
Vinyl chloride	01	75-01-4	SW8260D	10/24/2022 14:23	10/24/2022 14:23	3.45		0.50	0.50	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	95.8 %	70-120	10/24/2022 14:23	10/24/2022 14:23							
Surr: 4-Bromofluorobenzene (Surr)	01	99.0 %	75-120	10/24/2022 14:23	10/24/2022 14:23							
Surr: Dibromofluoromethane (Surr)	01	93.4 %	70-130	10/24/2022 14:23	10/24/2022 14:23							
Surr: Toluene-d8 (Surr)	01	99.1 %	70-130	10/24/2022 14:23	10/24/2022 14:23							
<b>Head Space Analysis by GC</b>												
Ethane	01	74-84-0	RSK175M	10/24/2022 18:58	10/24/2022 18:58	4.06	J	1.50	5.00	1	ug/L	BMR
Ethene	01	74-85-1	RSK175M	10/24/2022 18:58	10/24/2022 18:58	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	01	104 %	70-130	10/24/2022 18:58	10/24/2022 18:58							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1D

Laboratory Sample ID: 22J1069-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	02	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:27	0.0322		0.0030	0.0040	1	mg/L	AB
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	02	75-34-3	SW8260D	10/24/2022 14:46	10/24/2022 14:46	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	02	75-00-3	SW8260D	10/24/2022 14:46	10/24/2022 14:46	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	02	79-01-6	SW8260D	10/24/2022 14:46	10/24/2022 14:46	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	02	75-01-4	SW8260D	10/24/2022 14:46	10/24/2022 14:46	1.77		0.50	0.50	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	96.3 %	70-120	10/24/2022 14:46	10/24/2022 14:46							
Surr: 4-Bromofluorobenzene (Surr)	02	99.5 %	75-120	10/24/2022 14:46	10/24/2022 14:46							
Surr: Dibromofluoromethane (Surr)	02	94.6 %	70-130	10/24/2022 14:46	10/24/2022 14:46							
Surr: Toluene-d8 (Surr)	02	98.9 %	70-130	10/24/2022 14:46	10/24/2022 14:46							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1D

Laboratory Sample ID: 22J1069-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	02	74-84-0	RSK175M	10/24/2022 19:11	10/24/2022 19:11	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	02	74-85-1	RSK175M	10/24/2022 19:11	10/24/2022 19:11	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	02	98.2 %	70-130	10/24/2022 19:11	10/24/2022 19:11							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22J1069-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	03	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:32	BLOD		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22J1069-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	03	75-34-3	SW8260D	10/24/2022 15:10	10/24/2022 15:10	BLOD		0.60	1.00	1	ug/L	RJB
<b>Chloroethane</b>	03	75-00-3	SW8260D	10/24/2022 15:10	10/24/2022 15:10	1.14		0.70	1.00	1	ug/L	RJB
Trichloroethene	03	79-01-6	SW8260D	10/24/2022 15:10	10/24/2022 15:10	BLOD		0.40	1.00	1	ug/L	RJB
<b>Vinyl chloride</b>	03	75-01-4	SW8260D	10/24/2022 15:10	10/24/2022 15:10	0.71		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	03	93.2 %	70-120	10/24/2022 15:10	10/24/2022 15:10							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	03	100 %	75-120	10/24/2022 15:10	10/24/2022 15:10							
<i>Surr: Dibromofluoromethane (Surr)</i>	03	93.1 %	70-130	10/24/2022 15:10	10/24/2022 15:10							
<i>Surr: Toluene-d8 (Surr)</i>	03	99.2 %	70-130	10/24/2022 15:10	10/24/2022 15:10							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1E

Laboratory Sample ID: 22J1069-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	03	74-84-0	RSK175M	10/24/2022 19:24	10/24/2022 19:24	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	03	74-85-1	RSK175M	10/24/2022 19:24	10/24/2022 19:24	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	03	103 %	70-130	10/24/2022 19:24	10/24/2022 19:24							

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### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22J1069-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	04	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:37	BLOD		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22J1069-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	04	75-34-3	SW8260D	10/24/2022 15:33	10/24/2022 15:33	3.22		0.60	1.00	1	ug/L	RJB
Chloroethane	04	75-00-3	SW8260D	10/24/2022 15:33	10/24/2022 15:33	BLOD		0.70	1.00	1	ug/L	RJB
<b>Trichloroethene</b>	04	79-01-6	SW8260D	10/24/2022 15:33	10/24/2022 15:33	2.09		0.40	1.00	1	ug/L	RJB
<b>Vinyl chloride</b>	04	75-01-4	SW8260D	10/24/2022 15:33	10/24/2022 15:33	3.73		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	96.3 %	70-120	10/24/2022 15:33	10/24/2022 15:33							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	100 %	75-120	10/24/2022 15:33	10/24/2022 15:33							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	95.0 %	70-130	10/24/2022 15:33	10/24/2022 15:33							
<i>Surr: Toluene-d8 (Surr)</i>	04	99.6 %	70-130	10/24/2022 15:33	10/24/2022 15:33							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1F

Laboratory Sample ID: 22J1069-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	04	74-84-0	RSK175M	10/24/2022 19:36	10/24/2022 19:36	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	04	74-85-1	RSK175M	10/24/2022 19:36	10/24/2022 19:36	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	04	104 %	70-130	10/24/2022 19:36	10/24/2022 19:36							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1G

Laboratory Sample ID: 22J1069-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	05	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:42	BLOD		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1G

Laboratory Sample ID: 22J1069-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	05	75-34-3	SW8260D	10/24/2022 15:56	10/24/2022 15:56	BLOD		0.60	1.00	1	ug/L	RJB
<b>Chloroethane</b>	05	75-00-3	SW8260D	10/24/2022 15:56	10/24/2022 15:56	2.04		0.70	1.00	1	ug/L	RJB
Trichloroethene	05	79-01-6	SW8260D	10/24/2022 15:56	10/24/2022 15:56	BLOD		0.40	1.00	1	ug/L	RJB
<b>Vinyl chloride</b>	05	75-01-4	SW8260D	10/24/2022 15:56	10/24/2022 15:56	0.67		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	05	95.0 %	70-120	10/24/2022 15:56	10/24/2022 15:56							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	05	100 %	75-120	10/24/2022 15:56	10/24/2022 15:56							
<i>Surr: Dibromofluoromethane (Surr)</i>	05	93.4 %	70-130	10/24/2022 15:56	10/24/2022 15:56							
<i>Surr: Toluene-d8 (Surr)</i>	05	99.7 %	70-130	10/24/2022 15:56	10/24/2022 15:56							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: **MW-1G**

Laboratory Sample ID: **22J1069-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	05	74-84-0	RSK175M	10/24/2022 19:49	10/24/2022 19:49	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	05	74-85-1	RSK175M	10/24/2022 19:49	10/24/2022 19:49	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	05	93.9 %	70-130	10/24/2022 19:49	10/24/2022 19:49							



### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22J1069-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	06	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:47	BLOD		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22J1069-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	06	75-34-3	SW8260D	10/24/2022 16:20	10/24/2022 16:20	2.69		0.60	1.00	1	ug/L	RJB
Chloroethane	06	75-00-3	SW8260D	10/24/2022 16:20	10/24/2022 16:20	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	06	79-01-6	SW8260D	10/24/2022 16:20	10/24/2022 16:20	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	06	75-01-4	SW8260D	10/24/2022 16:20	10/24/2022 16:20	BLOD		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	06	96.2 %	70-120	10/24/2022 16:20	10/24/2022 16:20							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	06	101 %	75-120	10/24/2022 16:20	10/24/2022 16:20							
<i>Surr: Dibromofluoromethane (Surr)</i>	06	95.2 %	70-130	10/24/2022 16:20	10/24/2022 16:20							
<i>Surr: Toluene-d8 (Surr)</i>	06	99.7 %	70-130	10/24/2022 16:20	10/24/2022 16:20							

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1H

Laboratory Sample ID: 22J1069-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	06	74-84-0	RSK175M	10/25/2022 12:41	10/25/2022 12:41	6.61		1.50	5.00	1	ug/L	BMR
Ethene	06	74-85-1	RSK175M	10/25/2022 12:41	10/25/2022 12:41	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	06	120 %	70-130	10/25/2022 12:41	10/25/2022 12:41							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22J1069-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	07	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:52	BLOD		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22J1069-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	07	75-34-3	SW8260D	10/24/2022 16:43	10/24/2022 16:43	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	07	75-00-3	SW8260D	10/24/2022 16:43	10/24/2022 16:43	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	07	79-01-6	SW8260D	10/24/2022 16:43	10/24/2022 16:43	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	07	75-01-4	SW8260D	10/24/2022 16:43	10/24/2022 16:43	BLOD		0.50	0.50	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	07	97.4 %	70-120	10/24/2022 16:43	10/24/2022 16:43							
Surr: 4-Bromofluorobenzene (Surr)	07	100 %	75-120	10/24/2022 16:43	10/24/2022 16:43							
Surr: Dibromofluoromethane (Surr)	07	96.3 %	70-130	10/24/2022 16:43	10/24/2022 16:43							
Surr: Toluene-d8 (Surr)	07	99.9 %	70-130	10/24/2022 16:43	10/24/2022 16:43							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-1I

Laboratory Sample ID: 22J1069-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	07	74-84-0	RSK175M	10/25/2022 13:06	10/25/2022 13:06	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	07	74-85-1	RSK175M	10/25/2022 13:06	10/25/2022 13:06	BLOD		1.50	5.00	1	ug/L	BMR
Surr: Acetylene (Surr)	07	128 %	70-130	10/25/2022 13:06	10/25/2022 13:06							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-3

Laboratory Sample ID: 22J1069-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	08	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 17:56	0.0249		0.0030	0.0040	1	mg/L	AB



## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-3

Laboratory Sample ID: 22J1069-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	08	75-34-3	SW8260D	10/24/2022 17:06	10/24/2022 17:06	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	08	75-00-3	SW8260D	10/24/2022 17:06	10/24/2022 17:06	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	08	79-01-6	SW8260D	10/24/2022 17:06	10/24/2022 17:06	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	08	75-01-4	SW8260D	10/24/2022 17:06	10/24/2022 17:06	BLOD		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	08	98.1 %	70-120	10/24/2022 17:06	10/24/2022 17:06							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	08	99.3 %	75-120	10/24/2022 17:06	10/24/2022 17:06							
<i>Surr: Dibromofluoromethane (Surr)</i>	08	97.0 %	70-130	10/24/2022 17:06	10/24/2022 17:06							
<i>Surr: Toluene-d8 (Surr)</i>	08	99.1 %	70-130	10/24/2022 17:06	10/24/2022 17:06							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-3

Laboratory Sample ID: 22J1069-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	08	74-84-0	RSK175M	10/25/2022 13:19	10/25/2022 13:19	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	08	74-85-1	RSK175M	10/25/2022 13:19	10/25/2022 13:19	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	08	127 %	70-130	10/25/2022 13:19	10/25/2022 13:19							

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### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-5

Laboratory Sample ID: 22J1069-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	09	7440-48-4	SW6010D	10/24/2022 13:00	10/25/2022 18:01	0.0695		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-5

Laboratory Sample ID: 22J1069-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	09	75-34-3	SW8260D	10/24/2022 17:29	10/24/2022 17:29	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	09	75-00-3	SW8260D	10/24/2022 17:29	10/24/2022 17:29	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	09	79-01-6	SW8260D	10/24/2022 17:29	10/24/2022 17:29	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	09	75-01-4	SW8260D	10/24/2022 17:29	10/24/2022 17:29	BLOD		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	09	96.0 %	70-120	10/24/2022 17:29	10/24/2022 17:29							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	09	100 %	75-120	10/24/2022 17:29	10/24/2022 17:29							
<i>Surr: Dibromofluoromethane (Surr)</i>	09	96.1 %	70-130	10/24/2022 17:29	10/24/2022 17:29							
<i>Surr: Toluene-d8 (Surr)</i>	09	99.7 %	70-130	10/24/2022 17:29	10/24/2022 17:29							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: MW-5

Laboratory Sample ID: 22J1069-09

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	09	74-84-0	RSK175M	10/25/2022 13:32	10/25/2022 13:32	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	09	74-85-1	RSK175M	10/25/2022 13:32	10/25/2022 13:32	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	09	134 %	70-130	10/25/2022 13:32	10/25/2022 13:32							S

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1069-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	10	75-34-3	SW8260D	10/24/2022 14:00	10/24/2022 14:00	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	10	75-00-3	SW8260D	10/24/2022 14:00	10/24/2022 14:00	BLOD		0.70	1.00	1	ug/L	RJB
Trichloroethene	10	79-01-6	SW8260D	10/24/2022 14:00	10/24/2022 14:00	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	10	75-01-4	SW8260D	10/24/2022 14:00	10/24/2022 14:00	BLOD		0.50	0.50	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	10	96.5 %	70-120	10/24/2022 14:00	10/24/2022 14:00							
Surr: 4-Bromofluorobenzene (Surr)	10	100 %	75-120	10/24/2022 14:00	10/24/2022 14:00							
Surr: Dibromofluoromethane (Surr)	10	95.0 %	70-130	10/24/2022 14:00	10/24/2022 14:00							
Surr: Toluene-d8 (Surr)	10	99.2 %	70-130	10/24/2022 14:00	10/24/2022 14:00							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1069-10

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	10	74-84-0	RSK175M	10/25/2022 12:03	10/25/2022 12:03	BLOD		1.50	5.00	1	ug/L	BMR
Ethene	10	74-85-1	RSK175M	10/25/2022 12:03	10/25/2022 12:03	BLOD		1.50	5.00	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	10	106 %	70-130	10/25/2022 12:03	10/25/2022 12:03							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0888 - EPA200.2/R2.8</b>										
<b>Blank (BFJ0888-BLK1)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	ND	0.0040	mg/L							
<b>LCS (BFJ0888-BS1)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	0.526	0.0040	mg/L	0.500		105	80-120			
<b>Matrix Spike (BFJ0888-MS1)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	0.572	0.0040	mg/L	0.500	0.0592	103	75-125			
<b>Matrix Spike (BFJ0888-MS2)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	0.515	0.0040	mg/L	0.500	BLOD	103	75-125			
<b>Matrix Spike Dup (BFJ0888-MSD1)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	0.569	0.0040	mg/L	0.500	0.0592	102	75-125	0.578	20	
<b>Matrix Spike Dup (BFJ0888-MSD2)</b>										
				Prepared: 10/24/2022 Analyzed: 10/25/2022						
Cobalt	0.499	0.0040	mg/L	0.500	BLOD	99.9	75-125	3.11	20	

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0903 - SW5030B-MS

**Blank (BFJ0903-BLK1)**

Prepared &amp; Analyzed: 10/24/2022

1,1-Dichloroethane	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Vinyl chloride	ND	0.50	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	46.7		ug/L	50.0		93.3	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.5		ug/L	50.0		101	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.6		ug/L	50.0		93.1	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.6		ug/L	50.0		99.2	70-130			

**LCS (BFJ0903-BS1)**

Prepared &amp; Analyzed: 10/24/2022

1,1-Dichloroethane	42.6	1	ug/L	50.0		85.3	70-135			
Chloroethane	38.8	1	ug/L	50.0		77.6	60-135			
Trichloroethylene	45.6	1	ug/L	50.0		91.3	70-125			
Vinyl chloride	36.2	0.5	ug/L	50.0		72.4	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	43.7		ug/L	50.0		87.5	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.3		ug/L	50.0		103	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	43.8		ug/L	50.0		87.7	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.0		ug/L	50.0		96.1	70-130			

**Matrix Spike (BFJ0903-MS1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/24/2022

1,1-Dichloroethane	40.5	1	ug/L	50.0	BLOD	80.9	70-135			
Chloroethane	36.6	1	ug/L	50.0	BLOD	73.1	60-135			
Trichloroethylene	44.2	1	ug/L	50.0	BLOD	88.4	70-125			
Vinyl chloride	34.2	0.5	ug/L	50.0	BLOD	68.4	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	42.1		ug/L	50.0		84.3	70-120			

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0903 - SW5030B-MS

**Matrix Spike (BFJ0903-MS1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/24/2022

<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.1		ug/L	50.0		100	75-120
<i>Surr: Dibromofluoromethane (Surr)</i>	42.6		ug/L	50.0		85.2	70-130
<i>Surr: Toluene-d8 (Surr)</i>	48.5		ug/L	50.0		96.9	70-130

**Matrix Spike Dup (BFJ0903-MSD1)**

Source: 22J1082-05

Prepared &amp; Analyzed: 10/24/2022

1,1-Dichloroethane	40.2	1	ug/L	50.0	BLOD	80.4	70-135	0.694	30
Chloroethane	35.4	1	ug/L	50.0	BLOD	70.7	60-135	3.31	30
Trichloroethylene	43.4	1	ug/L	50.0	BLOD	86.8	70-125	1.80	30
Vinyl chloride	33.1	0.5	ug/L	50.0	BLOD	66.1	50-145	3.36	30
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	42.8		ug/L	50.0		85.5	70-120		
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.3		ug/L	50.0		103	75-120		
<i>Surr: Dibromofluoromethane (Surr)</i>	42.9		ug/L	50.0		85.8	70-130		
<i>Surr: Toluene-d8 (Surr)</i>	48.4		ug/L	50.0		96.7	70-130		

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Blank (BFJ0906-BLK1)</b>										
				Prepared & Analyzed: 10/24/2022						
Ethane	ND	5.00	ug/L							
Ethene	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<b>LCS (BFJ0906-BS1)</b>										
				Prepared & Analyzed: 10/24/2022						
Ethane	502	5.00	ug/L	500		100	70-130			
Ethene	454	5.00	ug/L	464		97.8	70-130			
Methane	256	5.00	ug/L	266		96.2	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<b>Duplicate (BFJ0906-DUP1)</b>										
				<b>Source: 22J1066-01</b>			Prepared & Analyzed: 10/24/2022			
Ethane	ND	5.00	ug/L		BLOD			NA	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	ND	5.00	ug/L		BLOD			NA	20	
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<b>Matrix Spike (BFJ0906-MS1)</b>										
				<b>Source: 22J1064-01</b>			Prepared & Analyzed: 10/24/2022			
Ethane	590	5.00	ug/L	500	BLOD	118	70-130			
Ethene	529	5.00	ug/L	464	BLOD	114	70-130			
Methane	431	5.00	ug/L	266	136	111	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>										
				<b>Source: 22J1064-01</b>			Prepared & Analyzed: 10/24/2022			
Ethane	570	5.00	ug/L	500	BLOD	114	70-130	3.33	20	
Ethene	512	5.00	ug/L	464	BLOD	110	70-130	3.13	20	
Methane	423	5.00	ug/L	266	136	108	70-130	1.92	20	

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Head Space Analysis by GC - Quality Control  
 Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>		<b>Source: 22J1064-01</b>			<b>Prepared &amp; Analyzed: 10/24/2022</b>					
<i>Surr: Acetylene (Surr)</i>	504		ug/L	432		117	70-130			
<b>Batch BFJ0959 - SW5030B-MS</b>										
<b>Blank (BFJ0959-BLK1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Ethane	ND	5.00	ug/L							
Ethene	ND	5.00	ug/L							
<i>Surr: Acetylene (Surr)</i>	452		ug/L	432		105	70-130			
<b>LCS (BFJ0959-BS1)</b>		<b>Prepared &amp; Analyzed: 10/25/2022</b>								
Ethane	523	5.00	ug/L	500		105	70-130			
Ethene	474	5.00	ug/L	464		102	70-130			
Methane	269	5.00	ug/L	266		101	70-130			
<i>Surr: Acetylene (Surr)</i>	484		ug/L	432		112	70-130			
<b>Duplicate (BFJ0959-DUP1)</b>		<b>Source: 22J1069-06</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Ethane	6.67	5.00	ug/L		6.61			0.904	20	
Ethene	ND	5.00	ug/L		BLOD			NA	20	
Methane	1590	5.00	ug/L		1660			3.90	20	
<i>Surr: Acetylene (Surr)</i>	597		ug/L	432		138	70-130			S
<b>Matrix Spike (BFJ0959-MS1)</b>		<b>Source: 22J1122-01</b>			<b>Prepared &amp; Analyzed: 10/25/2022</b>					
Ethane	522	5.00	ug/L	500	2.80	104	70-130			
Ethene	469	5.00	ug/L	464	BLOD	101	70-130			
Methane	3800	5.00	ug/L	266	4480	-255	70-130			M
<i>Surr: Acetylene (Surr)</i>	476		ug/L	432		110	70-130			

### Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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#### Batch BFJ0959 - SW5030B-MS

Matrix Spike Dup (BFJ0959-MSD1)	Source: 22J1122-01			Prepared & Analyzed: 10/25/2022						
Ethane	585	5.00	ug/L	500	2.80	116	70-130	11.4	20	
Ethene	525	5.00	ug/L	464	BL0D	113	70-130	11.3	20	
Methane	4460	5.00	ug/L	266	4480	-7.97	70-130	15.9	20	M
<i>Surr: Acetylene (Surr)</i>	<i>537</i>		<i>ug/L</i>	<i>432</i>		<i>124</i>	<i>70-130</i>			

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2/R2.8</b>	
22J1069-01	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-02	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-03	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-04	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-05	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-06	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-07	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-08	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
22J1069-09	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22J1069-01	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-02	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-03	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-04	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-05	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-06	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-07	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-08	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-09	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-10	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
22J1069-01	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1069-02	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1069-03	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1069-04	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1069-05	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
22J1069-06	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
22J1069-07	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
22J1069-08	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
22J1069-09	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
22J1069-10	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2/R2.8</b>	
BFJ0888-BLK1	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
BFJ0888-BLK2		SW6010D	BFJ0888	SFJ0971	AJ20164
BFJ0888-BS1	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
BFJ0888-MS1	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
BFJ0888-MS2	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
BFJ0888-MSD1	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158
BFJ0888-MSD2	50.0 mL / 50.0 mL	SW6010D	BFJ0888	SFJ0927	AJ20158

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFJ0903-BLK1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-BS1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-MS1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0903-MSD1	5.00 mL / 5.00 mL	SW8260D	BFJ0903	SFJ0879	AI20032
BFJ0906-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0959-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005
BFJ0959-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Head Space Analysis by GC</b>					
BFJ0959-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0959	SFJ0949	AI20005

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
Ethene	VELAP
<b><i>SW6010D in Non-Potable Water</i></b>	
Cobalt	VELAP,WVDEP
<b><i>SW8260D in Non-Potable Water</i></b>	
1,1-Dichloroethane	VELAP,NCDEQ,WVDEP
Chloroethane	VELAP,NCDEQ,WVDEP
Trichloroethylene	VELAP,NCDEQ,WVDEP
Vinyl chloride	VELAP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #12098	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

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## Certificate of Analysis

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

### Qualifiers and Definitions

J	The reported result is an estimated value.
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.



# ENTHALPY ANALYTICAL

## Sample Preservation Log

for MM/DLJ

Order ID: 22J1069 Date Performed: 10/21/22 Analyst Performing Check: MM/DLJ

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508) PCB DW only		SVOC (5258270/625)		CrVI **		Pest/PCB (508) / SVOC(625)		pH as Received		Final pH			
		pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	pH as Received	Final pH	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final	Res. Cl	Final
1	A	/																													
2	A	/																													
3	A	4	2																												
4	A	/																													
5	A	/																													
6	A	/																													
7	A	/																													
8	A	/																													
9	A	/																													

Metals were received with pH = 7. HNO3 was added at 1228 on 21 Oct 2022 by DLJ in the Log-In room to bring pH= <2.

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Na2S2O3 ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ Na2SO3 ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \*pH must be adjusted between 9.3 - 9.7  
 Buffer Sol'n ID: \_\_\_\_\_

\*\*Va only certifies DISS CrVI and not T CrVI as an approved analyte under 40CFR136 for waste water.



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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM

**Laboratory Order ID: 22J1069**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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?	No
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

There is headspace on samples :05B:MW-1G, 05D:MW-1G , and 05F:MW-1G. Trip blank collection time and date (09/14/22 14:36) on the bottle label differs from the COC (10/18/22 12:00). The sample has been logged and labeled per the container. Peter Nash and Michael Williams notified via email.  
 YO 21 OCT 2022 1524

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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:55:31PM



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

## Certificate of Analysis

*Final Report*

Laboratory Order ID 22J1067

Client Name: Golder Associates, Inc.  
2108 W. Laburnum Ave. Suite 200  
Richmond, VA 23227

Date Received: October 20, 2022 17:18  
Date Issued: October 31, 2022 13:56  
Project Number: 2014572921.200  
Purchase Order:

Submitted To: Michele Clary

Client Site I.D.: Laurel Valley Corrective Action

Enclosed are the results of analyses for samples received by the laboratory on 10/20/2022 17:18. 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 Enthalpy Analytical.

**Analysis Detects Report**

 Client Name: Golder Associates, Inc.  
 Client Site ID: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

**Laboratory Sample ID: 22J1067-01                      Client Sample ID: MW-4**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	01	SW6010D	0.0179		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	01	SW8260D	1.07		0.60	1.00	1	ug/L
Chloroethane	01	SW8260D	1.06		0.70	1.00	1	ug/L

**Laboratory Sample ID: 22J1067-02                      Client Sample ID: MW-6**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	02	SW6010D	0.115		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	02	SW8260D	0.86	J	0.60	1.00	1	ug/L

**Laboratory Sample ID: 22J1067-03                      Client Sample ID: MW-X1**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	03	SW6010D	0.0349		0.0030	0.0040	1	mg/L

**Laboratory Sample ID: 22J1067-04                      Client Sample ID: CLF-1**

Parameter	Samp ID	Reference Method	Sample Results	Qual	LOD	LOQ	Dil. Factor	Units
Cobalt	04	SW6010D	0.0386		0.0030	0.0040	1	mg/L
1,1-Dichloroethane	04	SW8260D	0.70	J	0.60	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".

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**Certificate of Analysis**Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	22J1067-01	Ground Water	10/19/2022 09:25	10/20/2022 17:18
MW-6	22J1067-02	Ground Water	10/19/2022 11:45	10/20/2022 17:18
MW-X1	22J1067-03	Ground Water	10/19/2022 13:30	10/20/2022 17:18
CLF-1	22J1067-04	Ground Water	10/19/2022 10:40	10/20/2022 17:18
Trip Blank	22J1067-05	Ground Water	09/14/2022 14:36	10/20/2022 17:18

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-4

Laboratory Sample ID: 22J1067-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	01	7440-48-4	SW6010D	10/21/2022 17:00	10/24/2022 14:12	0.0179		0.0030	0.0040	1	mg/L	AB
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	01	75-34-3	SW8260D	10/21/2022 18:16	10/21/2022 18:16	1.07		0.60	1.00	1	ug/L	RJB
Chloroethane	01	75-00-3	SW8260D	10/21/2022 18:16	10/21/2022 18:16	1.06		0.70	1.00	1	ug/L	RJB
Naphthalene	01	91-20-3	SW8260D	10/21/2022 18:16	10/21/2022 18:16	BLOD		0.80	1.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	01	96.2 %	70-120	10/21/2022 18:16	10/21/2022 18:16							
Surr: 4-Bromofluorobenzene (Surr)	01	101 %	75-120	10/21/2022 18:16	10/21/2022 18:16							
Surr: Dibromofluoromethane (Surr)	01	95.2 %	70-130	10/21/2022 18:16	10/21/2022 18:16							
Surr: Toluene-d8 (Surr)	01	100 %	70-130	10/21/2022 18:16	10/21/2022 18:16							
<b>Head Space Analysis by GC</b>												
Ethane	01	74-84-0	RSK175M	10/24/2022 18:07	10/24/2022 18:07	BLOD		1.5	5.0	1	ug/L	BMR
Surr: Acetylene (Surr)	01	111 %	70-130	10/24/2022 18:07	10/24/2022 18:07							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-6

Laboratory Sample ID: 22J1067-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	02	7440-48-4	SW6010D	10/21/2022 17:00	10/24/2022 14:17	0.115		0.0030	0.0040	1	mg/L	AB
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	02	75-34-3	SW8260D	10/21/2022 18:39	10/21/2022 18:39	0.86	J	0.60	1.00	1	ug/L	RJB
Chloroethane	02	75-00-3	SW8260D	10/21/2022 18:39	10/21/2022 18:39	BLOD		0.70	1.00	1	ug/L	RJB
Naphthalene	02	91-20-3	SW8260D	10/21/2022 18:39	10/21/2022 18:39	BLOD		0.80	1.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	02	95.3 %	70-120	10/21/2022 18:39	10/21/2022 18:39							
Surr: 4-Bromofluorobenzene (Surr)	02	101 %	75-120	10/21/2022 18:39	10/21/2022 18:39							
Surr: Dibromofluoromethane (Surr)	02	94.3 %	70-130	10/21/2022 18:39	10/21/2022 18:39							
Surr: Toluene-d8 (Surr)	02	99.9 %	70-130	10/21/2022 18:39	10/21/2022 18:39							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-6

Laboratory Sample ID: 22J1067-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	02	74-84-0	RSK175M	10/24/2022 18:20	10/24/2022 18:20	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	02	99.1 %	70-130	10/24/2022 18:20	10/24/2022 18:20							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22J1067-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	03	7440-48-4	SW6010D	10/21/2022 17:00	10/24/2022 15:01	0.0349		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22J1067-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	03	75-34-3	SW8260D	10/21/2022 19:02	10/21/2022 19:02	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	03	75-00-3	SW8260D	10/21/2022 19:02	10/21/2022 19:02	BLOD		0.70	1.00	1	ug/L	RJB
Naphthalene	03	91-20-3	SW8260D	10/21/2022 19:02	10/21/2022 19:02	BLOD		0.80	1.00	1	ug/L	RJB
Surr: 1,2-Dichloroethane-d4 (Surr)	03	96.2 %	70-120	10/21/2022 19:02	10/21/2022 19:02							
Surr: 4-Bromofluorobenzene (Surr)	03	101 %	75-120	10/21/2022 19:02	10/21/2022 19:02							
Surr: Dibromofluoromethane (Surr)	03	94.2 %	70-130	10/21/2022 19:02	10/21/2022 19:02							
Surr: Toluene-d8 (Surr)	03	99.2 %	70-130	10/21/2022 19:02	10/21/2022 19:02							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: MW-X1

Laboratory Sample ID: 22J1067-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	03	74-84-0	RSK175M	10/24/2022 18:33	10/24/2022 18:33	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	03	125 %	70-130	10/24/2022 18:33	10/24/2022 18:33							

### Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22J1067-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>												
Cobalt	04	7440-48-4	SW6010D	10/21/2022 17:00	10/24/2022 15:06	0.0386		0.0030	0.0040	1	mg/L	AB

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22J1067-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
<b>1,1-Dichloroethane</b>	04	75-34-3	SW8260D	10/21/2022 19:25	10/21/2022 19:25	0.70	J	0.60	1.00	1	ug/L	RJB
Chloroethane	04	75-00-3	SW8260D	10/21/2022 19:25	10/21/2022 19:25	BLOD		0.70	1.00	1	ug/L	RJB
Naphthalene	04	91-20-3	SW8260D	10/21/2022 19:25	10/21/2022 19:25	BLOD		0.80	1.00	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	04	96.8 %	70-120	10/21/2022 19:25	10/21/2022 19:25							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	04	101 %	75-120	10/21/2022 19:25	10/21/2022 19:25							
<i>Surr: Dibromofluoromethane (Surr)</i>	04	93.9 %	70-130	10/21/2022 19:25	10/21/2022 19:25							
<i>Surr: Toluene-d8 (Surr)</i>	04	99.4 %	70-130	10/21/2022 19:25	10/21/2022 19:25							



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: CLF-1

Laboratory Sample ID: 22J1067-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	04	74-84-0	RSK175M	10/24/2022 18:46	10/24/2022 18:46	BLOD		1.5	5.0	1	ug/L	BMR
Surr: Acetylene (Surr)	04	99.0 %	70-130	10/24/2022 18:46	10/24/2022 18:46							

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1067-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Volatile Organic Compounds by GCMS</b>												
1,1-Dichloroethane	05	75-34-3	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.60	1.00	1	ug/L	RJB
Chloroethane	05	75-00-3	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.70	1.00	1	ug/L	RJB
cis-1,2-Dichloroethene	05	156-59-2	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.40	1.00	1	ug/L	RJB
Naphthalene	05	91-20-3	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.80	1.00	1	ug/L	RJB
trans-1,2-Dichloroethene	05	156-60-5	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.60	1.00	1	ug/L	RJB
Trichloroethene	05	79-01-6	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.40	1.00	1	ug/L	RJB
Vinyl chloride	05	75-01-4	SW8260D	10/21/2022 16:43	10/21/2022 16:43	BLOD		0.50	0.50	1	ug/L	RJB
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	05	95.1 %	70-120	10/21/2022 16:43	10/21/2022 16:43							
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	05	99.3 %	75-120	10/21/2022 16:43	10/21/2022 16:43							
<i>Surr: Dibromofluoromethane (Surr)</i>	05	93.0 %	70-130	10/21/2022 16:43	10/21/2022 16:43							
<i>Surr: Toluene-d8 (Surr)</i>	05	98.9 %	70-130	10/21/2022 16:43	10/21/2022 16:43							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Client Sample ID: Trip Blank

Laboratory Sample ID: 22J1067-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	LOD	LOQ	DF	Units	Analyst
<b>Head Space Analysis by GC</b>												
Ethane	05	74-84-0	RSK175M	10/24/2022 15:35	10/24/2022 15:35	BLOD		1.5	5.0	1	ug/L	BMR
<i>Surr: Acetylene (Surr)</i>	05	108 %	70-130	10/24/2022 15:35	10/24/2022 15:35							

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

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

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0859 - EPA200.2/R2.8</b>										
<b>Blank (BFJ0859-BLK1)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	ND	0.0040	mg/L							
<b>LCS (BFJ0859-BS1)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	0.491	0.0040	mg/L	0.500		98.1	80-120			
<b>Matrix Spike (BFJ0859-MS1)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	0.387	0.0040	mg/L	0.500	0.0044	76.6	75-125			
<b>Matrix Spike (BFJ0859-MS2)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	0.452	0.0040	mg/L	0.500	BLOD	90.4	75-125			
<b>Matrix Spike Dup (BFJ0859-MSD1)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	0.384	0.0040	mg/L	0.500	0.0044	75.9	75-125	0.880	20	
<b>Matrix Spike Dup (BFJ0859-MSD2)</b>										
				Prepared: 10/21/2022 Analyzed: 10/24/2022						
Cobalt	0.439	0.0040	mg/L	0.500	BLOD	87.7	75-125	3.00	20	

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0848 - SW5030B-MS</b>										
<b>Blank (BFJ0848-BLK1)</b>				Prepared & Analyzed: 10/21/2022						
1,1-Dichloroethane	ND	1.00	ug/L							
Chloroethane	ND	1.00	ug/L							
cis-1,2-Dichloroethylene	ND	1.00	ug/L							
Naphthalene	ND	1.00	ug/L							
trans-1,2-Dichloroethylene	ND	1.00	ug/L							
Trichloroethylene	ND	1.00	ug/L							
Vinyl chloride	ND	0.50	ug/L							
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	47.2		ug/L	50.0		94.4	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.0		ug/L	50.0		99.9	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.6		ug/L	50.0		93.3	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.7		ug/L	50.0		99.4	70-130			
<b>LCS (BFJ0848-BS1)</b>				Prepared & Analyzed: 10/21/2022						
1,1-Dichloroethane	44.2	1	ug/L	50.0		88.4	70-135			
Chloroethane	40.7	1	ug/L	50.0		81.4	60-135			
cis-1,2-Dichloroethylene	41.3	1	ug/L	50.0		82.5	70-125			
Naphthalene	41.2	1	ug/L	50.0		82.4	55-140			
trans-1,2-Dichloroethylene	40.0	1	ug/L	50.0		79.9	60-140			
Trichloroethylene	44.7	1	ug/L	50.0		89.4	70-125			
Vinyl chloride	40.1	0.5	ug/L	50.0		80.2	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	44.8		ug/L	50.0		89.7	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	51.5		ug/L	50.0		103	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	44.7		ug/L	50.0		89.3	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.6		ug/L	50.0		97.2	70-130			
<b>Duplicate (BFJ0848-DUP1)</b>		<b>Source: 22J1047-07</b>			Prepared & Analyzed: 10/21/2022					

## Certificate of Analysis

 Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

Volatile Organic Compounds by GCMS - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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### Batch BFJ0848 - SW5030B-MS

<b>Duplicate (BFJ0848-DUP1)</b>		<b>Source: 22J1047-07</b>			<b>Prepared &amp; Analyzed: 10/21/2022</b>					
1,1-Dichloroethane	ND	5.00	ug/L		BLOD			NA	30	
Chloroethane	ND	5.00	ug/L		BLOD			NA	30	
cis-1,2-Dichloroethylene	ND	5.00	ug/L		BLOD			NA	30	
Naphthalene	ND	5.00	ug/L		BLOD			NA	30	
trans-1,2-Dichloroethylene	ND	5.00	ug/L		BLOD			NA	30	
Trichloroethylene	ND	5.00	ug/L		BLOD			NA	30	
Vinyl chloride	ND	2.50	ug/L		BLOD			NA	30	
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	47.6		ug/L	50.0		95.2	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	49.8		ug/L	50.0		99.6	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	46.9		ug/L	50.0		93.8	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	49.8		ug/L	50.0		99.7	70-130			

<b>Matrix Spike (BFJ0848-MS1)</b>		<b>Source: 22J1043-07</b>			<b>Prepared &amp; Analyzed: 10/21/2022</b>					
1,1-Dichloroethane	45.2	1	ug/L	50.0	BLOD	90.5	70-135			
Chloroethane	42.1	1	ug/L	50.0	BLOD	84.2	60-135			
cis-1,2-Dichloroethylene	42.9	1	ug/L	50.0	BLOD	85.7	70-125			
Naphthalene	45.7	1	ug/L	50.0	BLOD	91.4	55-140			
trans-1,2-Dichloroethylene	41.9	1	ug/L	50.0	BLOD	83.7	60-140			
Trichloroethylene	47.4	1	ug/L	50.0	BLOD	94.7	70-125			
Vinyl chloride	41.6	0.5	ug/L	50.0	BLOD	83.2	50-145			
<i>Surr: 1,2-Dichloroethane-d4 (Surr)</i>	45.3		ug/L	50.0		90.6	70-120			
<i>Surr: 4-Bromofluorobenzene (Surr)</i>	50.2		ug/L	50.0		100	75-120			
<i>Surr: Dibromofluoromethane (Surr)</i>	44.3		ug/L	50.0		88.5	70-130			
<i>Surr: Toluene-d8 (Surr)</i>	48.9		ug/L	50.0		97.9	70-130			

## Certificate of Analysis

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Date Issued: 10/31/2022 1:56:19PM

Head Space Analysis by GC - Quality Control

Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BFJ0906 - SW5030B-MS</b>										
<b>Blank (BFJ0906-BLK1)</b>				Prepared & Analyzed: 10/24/2022						
Ethane	ND	5.0	ug/L							
<i>Surr: Acetylene (Surr)</i>	427		ug/L	432		98.7	70-130			
<b>LCS (BFJ0906-BS1)</b>				Prepared & Analyzed: 10/24/2022						
Ethane	502	5.0	ug/L	500		100	70-130			
<i>Surr: Acetylene (Surr)</i>	458		ug/L	432		106	70-130			
<b>Duplicate (BFJ0906-DUP1)</b>				<b>Source: 22J1066-01</b>		Prepared & Analyzed: 10/24/2022				
Ethane	ND	5.0	ug/L		BLOD			NA	20	
<i>Surr: Acetylene (Surr)</i>	418		ug/L	432		96.7	70-130			
<b>Matrix Spike (BFJ0906-MS1)</b>				<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022				
Ethane	590	5.0	ug/L	500	BLOD	118	70-130			
<i>Surr: Acetylene (Surr)</i>	524		ug/L	432		121	70-130			
<b>Matrix Spike Dup (BFJ0906-MSD1)</b>				<b>Source: 22J1064-01</b>		Prepared & Analyzed: 10/24/2022				
Ethane	570	5.0	ug/L	500	BLOD	114	70-130	3.33	20	
<i>Surr: Acetylene (Surr)</i>	504		ug/L	432		117	70-130			



## Certificate of Analysis

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Date Issued: 10/31/2022 1:56:19PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method: EPA200.2/R2.8</b>		
22J1067-01	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
22J1067-02	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
22J1067-03	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
22J1067-04	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method: SW5030B-MS</b>		
22J1067-01	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1067-02	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1067-03	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1067-04	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1067-05	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
22J1067-01	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1067-02	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1067-03	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1067-04	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
22J1067-05	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

## Certificate of Analysis

Client Name: Golder Associates, Inc.  
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Date Issued: 10/31/2022 1:56:19PM

### QC Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Metals (Total) by EPA 6000/7000 Series Methods</b>			<b>Preparation Method:</b>	<b>EPA200.2/R2.8</b>	
BFJ0859-BLK1	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
BFJ0859-BS1	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
BFJ0859-MS1	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
BFJ0859-MS2	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
BFJ0859-MSD1	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142
BFJ0859-MSD2	50.0 mL / 50.0 mL	SW6010D	BFJ0859	SFJ0867	AJ20142

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Volatile Organic Compounds by GCMS</b>			<b>Preparation Method:</b>	<b>SW5030B-MS</b>	
BFJ0848-BLK1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-BS1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-DUP1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0848-MS1	5.00 mL / 5.00 mL	SW8260D	BFJ0848	SFJ0816	AI20032
BFJ0906-BLK1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-BS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-DUP1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MS1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005
BFJ0906-MSD1	5.00 mL / 5.00 mL	RSK175M	BFJ0906	SFJ0881	AI20005

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**Certificate of Analysis**

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## Certificate of Analysis

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Date Issued: 10/31/2022 1:56:19PM

### Certified Analyses included in this Report

Analyte	Certifications
<b><i>RSK175M in Non-Potable Water</i></b>	
Ethane	VELAP
<b><i>SW6010D in Non-Potable Water</i></b>	
Cobalt	VELAP,WVDEP
<b><i>SW8260D in Non-Potable Water</i></b>	
1,1-Dichloroethane	VELAP,NCDEQ,WVDEP
Chloroethane	VELAP,NCDEQ,WVDEP
cis-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
Naphthalene	VELAP,NCDEQ,WVDEP
trans-1,2-Dichloroethylene	VELAP,NCDEQ,WVDEP
Trichloroethylene	VELAP,NCDEQ,WVDEP
Vinyl chloride	VELAP,NCDEQ,WVDEP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #12098	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

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## Certificate of Analysis

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### Qualifiers and Definitions

J The reported result is an estimated value.

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 REYMET ROAD  
RICHMOND, VIRGINIA 23237  
(804) 358-8295 PHONE  
(804)358-8297 FAX



**CHAIN OF CUSTODY**

COMPANY NAME: **Golder Associates** INVOICE TO: \_\_\_\_\_ PROJECT NAME/Quote #: \_\_\_\_\_  
 CONTACT: **Michele Clary** INVOICE CONTACT: \_\_\_\_\_ SITE NAME: **Laurel Valley Corrective Action**  
 ADDRESS: **2108 W. Laburnum Ave, Suite 200** INVOICE ADDRESS: \_\_\_\_\_ PROJECT NUMBER: **2014572921.200**  
 PHONE #: **804-358-7900** INVOICE PHONE #: \_\_\_\_\_ P.O. #: \_\_\_\_\_  
 FAX #: \_\_\_\_\_ EMAIL: \_\_\_\_\_ Pretreatment Program: \_\_\_\_\_  
 Is sample for compliance reporting? YES  NO  Regulatory State: \_\_\_\_\_ Is sample from a chlorinated supply? YES  NO  PWS I.D. #: \_\_\_\_\_  
 SAMPLER NAME (PRINT): **M. Knez** SAMPLER SIGNATURE: *M. Knez* Turn Around Time: Circle **10** 5 Days or Day(s)

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

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Grab Composite Start Date	Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE)					COMMENTS
											Ethane RSK 175	1,1-dichloroethane, Naphthalene, Chloroethane	Co SW610	X	X	
1) MW-4	X			10/19/22 <i>Grab</i>	10/19/22 <i>Grab</i>				GW	7	X	X	X	X	N/C	All samples preserved on ice
2) MW-6	X			10/19/22 <i>Grab</i>	10/19/22 <i>Grab</i>				GW	7	X	X	X	X	N/C	
3) MW-X1	X			10/19/22 <i>Grab</i>	10/19/22 <i>Grab</i>				GW	7	X	X	X	X	N/C	
4) CLF-1	X			10/19/22 <i>Grab</i>	10/19/22 <i>Grab</i>				GW	7	X	X	X	X	N/C	
5) Trip Blank	X			10/19/22 <i>Grab</i>	10/19/22 <i>Grab</i>				GW	4	X	X	X	X	N/C	
6)																PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)
7)																
8)																
9)																
10)																

LAB USE ONLY Therm ID: **271** COOLER TEMP **5.7** °C  
 Custody Seals used and intact? **0** / **N** Received on ice? **0** / **N**

QC Data Package  Level III  Level IV

RECEIVED: **10/20/22 @ 17:18** RECEIVED: **10/20/22 17:18**  
 RECEIVED: \_\_\_\_\_ RECEIVED: \_\_\_\_\_

**GA** **22J1067**  
**Laurel Valley Corrective Action**  
**Recd: 10/20/2022 Due: 11/03/2022**

Action-Wellb V130325002



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**Certificate of Analysis**

Client Name: Golder Associates, Inc.  
Client Site I.D.: Laurel Valley Corrective Action  
Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM



## Certificate of Analysis

Client Name: Golder Associates, Inc.  
 Client Site I.D.: Laurel Valley Corrective Action  
 Submitted To: Michele Clary

Date Issued: 10/31/2022 1:56:19PM

**Laboratory Order ID: 22J1067**

### Sample Conditions Checklist

Samples Received at:	5.70°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?	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

Trip blank collection time and date (09/14/22 14:36) on the bottle label differs from the COC (10/19/22 12:00). The sample has been logged and labeled per the container. Peter Nash and Michael Williams notified via email.  
 YO 21 OCT 2022 1524

## **APPENDIX IV**

### **LABORATORY DATA REVIEW— 1<sup>ST</sup> & 2<sup>ND</sup> SEMI-ANNUAL 2022 MONITORING EVENT**

Project Name: Culpeper County – First Semi-annual 2022 Groundwater Event

Project Reference Number: 20-14572921.100 & 200

Sampling Event Date: 03/28-30/2022

Review Date: 4/22/2022

Initials: DET

Review Date: 4/26/2022

Initials: PN

**Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.**

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Organic Superfund Methods Data Review, January 2017; and
- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017.

### COMMON ACRONYMS:

- |   |   |
|---|---|
| • MS = matrix spike                                   | • J = estimated                                       |
| • MSD = matrix spike duplicate                        | • ND and/or U= not detected                           |
| • LCS = laboratory control spike                      | • COC = chain of custody                              |
| • RPD = relative percent difference                   | • QC = quality control                                |
| • MB = method blank                                   | • µg/L = micrograms per liter                         |
| • DUP = duplicate                                     | • mg/L = milligrams per liter                         |
| • FB = field blank                                    | • EPA = United States Environmental Protection Agency |
| • VSWMR = Virginia Solid Waste Management Regulations | • pCi/L = picocuries per liter                        |

### ANALYTE LISTS

- Phase I Construction and Demolition Debris or Industrial
- VSWMR Table 3.1 Column A
- VSWMR Table 3.1 Column A + Detects (see note): dichlorodifluoromethane, naphthalene, sulfide, mercury, tin, bis(2-ethylhexylphthalate), 2,4,5-trichlorophenoxyacetic acid, 4-aminobiphenyl, Dibenz(a,h)anthracene, Di-n-butylphthalate, Indeno(1,2,3-cd)pyrene, Diethyl phthalate, Endosulfan sulfate, Gamma-chl
  
- VSWMR Table 3.1 Column B
- Other: Corrective Action wells: 1,1-dichloroethane, 1,2-dichloroethene, chloroethane, ethane, ethene, trichloroethene, vinyl chloride, nitrite/nitrate, alkalinity, chloride, methane, sulfate

Note: \_\_\_\_\_

### 1.0 Chain Of Custody (Coc) Review

- Yes COC was properly signed by all parties.
- Yes Correct project name and number are on the form.
- Yes Sample receipt condition at laboratory was acceptable.
- Yes Each sample and blank submitted for analysis appears in the data report.

Note:

### 2.0 SAMPLE HOLDING TIMES

- Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	Analytes	Holding Time
SW-846 Methods 8260, 8011	VOCs	14 days
SW-846 Method 8270	SVOCs	7 days
SW-846 Methods 8081	Pesticides, PCBs	7 days
SW-846 Methods 6000 and 7000 series	Metals, except Mercury	6 months
SW-846 Method 7470, 6010	Mercury, Tin	28 days
SW-846 Method 8151	Chlorinated Herbicides	7 days
SW-846 Method 9215	Sulfide	7 days
RSK175	Ethane, Ethene, Methane	14 days
SM22-4500	Nitrate, Nitrite	48 hours
SM22-2320B	Alkalinity	14 days
EPA 300.0	Chloride, Sulfate	28 days

Notes: \_\_\_\_\_

### 3.0 LABORATORY QUALITY CONTROL REVIEW

- Yes Laboratory analyzed at least one internal blank for each method, where applicable.
- Yes Laboratory blanks were interference free.

Notes: Naphthalene detected in the Field Blank

Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
Naphthalene	0.12	Field Blank	J+	--

- Yes Surrogate recoveries are provided for each analytical method, where applicable.

See Note Surrogate recoveries for each method are within the acceptable limits.

Notes:

Parameter	Sample Result (µg/L)	Lab Sample ID	Associated Qualified Sample(s)	Validator Qualifier
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<sup>1</sup> The reported result is an estimated value with positive bias

See Note MS/MSD/LCS/RPD data results are provided for each analytical method.

See Note MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: See table below for recoveries that were outside of acceptance limits. The batches were approved based on acceptable LCS recovery. Additionally, the MSD for batch BFD0116 was out of range for all analytes. However, the LCS and the MS for this batch were within the acceptable recovery limits.

Parameter	Laboratory Data Package	Batch	Recovery Outside QC Limits	Associated Qualified Sample(s)
Tetrachloroethylene <sup>1</sup>	22C1525	BFD0021	MS, MSD	--
Naphthalene <sup>1</sup>	22C1525	BFD0068	Blank	--
Hexachloroethane <sup>1</sup>	22C1525	BFD0068	LCS	--
Cis-1,2-Dichloroethylene <sup>1</sup>	22C1525	BFC1271	LCS,MSD	--
Methane <sup>1</sup>	22C1525	BFD0022	MSD	--
Chloride <sup>1</sup>	22C1525	BFC1192	MS, MSD	--

<sup>1</sup>Matrix spike recovery is outside established acceptance limits

<sup>2</sup>Estimated concentration, outside calibration range

<sup>3</sup>Duplicate analysis does not meet the acceptance criteria for precision

#### 4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: \_\_\_\_\_

#### 5.0 OUTLIER EVALUATION

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

NA Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
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**6.0 DATA REPORTING**

Yes Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes:

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

No The report provides the reporting limit for each constituent.

NA The proper reporting limits have been used (e.g. NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: \_\_\_\_\_

[https://golderassociates.sharepoint.com/sites/130478/project files/6 deliverables/annual groundwater reports/2022 agwmr/appendix iv-i 1sa22 culpeper data review.docx](https://golderassociates.sharepoint.com/sites/130478/project%20files/6%20deliverables/annual%20groundwater%20reports/2022%20agwmr/appendix%20iv-i%201sa22%20culpeper%20data%20review.docx)

Project Name: Culpeper County – Second Semi-annual 2022 Groundwater Event

Project Reference Number: 20-14572921.100 & 200

Sampling Event Date: 10/18-10/20-2022, 10/27/2022

Review Date: 12/10/2022

Initials: DET

Review Date: 12/15/2022

Initials: PN

**Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.**

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Organic Superfund Methods Data Review, January 2017; and
- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017.

### COMMON ACRONYMS:

- |   |   |
|---|---|
| • MS = matrix spike                                   | • J = estimated                                       |
| • MSD = matrix spike duplicate                        | • ND and/or U= not detected                           |
| • LCS = laboratory control spike                      | • COC = chain of custody                              |
| • RPD = relative percent difference                   | • QC = quality control                                |
| • MB = method blank                                   | • µg/L = micrograms per liter                         |
| • DUP = duplicate                                     | • mg/L = milligrams per liter                         |
| • FB = field blank                                    | • EPA = United States Environmental Protection Agency |
| • VSWMR = Virginia Solid Waste Management Regulations | • pCi/L = picocuries per liter                        |

### ANALYTE LISTS

- Phase I Construction and Demolition Debris or Industrial
- VSWMR Table 3.1 Column A
- VSWMR Table 3.1 Column A + Detects (see note): dichlorodifluoromethane, naphthalene, sulfide, mercury, tin, bis(2-ethylhexylphthalate), 2,4,5-trichlorophenoxyacetic acid, 4-aminobiphenyl, Dibenz(a,h)anthracene, Di-n-butylphthalate, Indeno(1,2,3-cd)pyrene, Diethyl phthalate, Endosulfan sulfate, Gamma-chl
  
- VSWMR Table 3.1 Column B
- Other: Corrective Action wells: 1,1-dichloroethane, 1,2-dichloroethene, chloroethane, ethane, ethene, trichloroethene, vinyl chloride, nitrite/nitrate, alkalinity, chloride, methane, sulfate

Note: \_\_\_\_\_

### 1.0 Chain Of Custody (Coc) Review

- Yes COC was properly signed by all parties.
- Yes Correct project name and number are on the form.
- Yes Sample receipt condition at laboratory was acceptable.
- Yes Each sample and blank submitted for analysis appears in the data report.

Note:

### 2.0 SAMPLE HOLDING TIMES

- Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	Analytes	Holding Time
SW-846 Methods 8260, 8011	VOCs	14 days
SW-846 Method 8270	SVOCs	7 days
SW-846 Methods 8081	Pesticides, PCBs	7 days
SW-846 Methods 6000 and 7000 series	Metals, except Mercury	6 months
SW-846 Method 7470, 6010	Mercury, Tin	28 days
SW-846 Method 8151	Chlorinated Herbicides	7 days
SW-846 Method 9215	Sulfide	7 days
RSK175	Ethane, Ethene, Methane	14 days
SM22-4500	Nitrate, Nitrite	48 hours
SM22-2320B	Alkalinity	14 days
EPA 300.0	Chloride, Sulfate	28 days

Notes: \_\_\_\_\_

### 3.0 LABORATORY QUALITY CONTROL REVIEW

- Yes Laboratory analyzed at least one internal blank for each method, where applicable.
- Yes Laboratory blanks were interference free.

Notes:

Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

- Yes Surrogate recoveries are provided for each analytical method, where applicable.
- See Note Surrogate recoveries for each method are within the acceptable limits.

Notes:



Parameter	Sample Result (µg/L)	Lab Sample ID	Associated Qualified Sample(s)	Validator Qualifier
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<sup>1</sup> The reported result is an estimated value with positive bias

See Note MS/MSD/LCS/RPD data results are provided for each analytical method.

See Note MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: See table below for recoveries that were outside of acceptance limits. The batches were approved based on acceptable LCS recovery. Additionally, the MSD for batch BFD0116 was out of range for all analytes. However, the LCS and the MS for this batch were within the acceptable recovery limits.

Parameter	Laboratory Data Package	Batch	Recovery Outside QC Limits	Associated Qualified Sample(s)
Methane <sup>1</sup>	22J1069	BFJ0959	MS, MSD	--
Methane <sup>1</sup>	22J1122	BFJ0959	MS, MSD	--
Silver <sup>3</sup>	22J1082	BFJ0866	LCS, MS, MSD	--
Tetrachloroethylene <sup>3</sup>	22J1082	BFJ0903	LCS, MS, MSD	--
1,2-Dichloroethane <sup>3</sup>	22J1082	BFJ0903	LCS, MS, MSD	--

<sup>1</sup>Matrix spike recovery is outside established acceptance limits

<sup>2</sup>Estimated concentration, outside calibration range

<sup>3</sup>Duplicate analysis does not meet the acceptance criteria for precision

#### 4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: \_\_\_\_\_

#### 5.0 OUTLIER EVALUATION

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

NA Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
--	--	--	--	--

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## 6.0 DATA REPORTING

Yes Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes:

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

No The report provides the reporting limit for each constituent.

NA The proper reporting limits have been used (e.g. NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

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