Aspect
A Geosyntec Company

August 27, 2024

Alexis McKinnon, Solid Waste Specialist
Kitsap County Public Works
Solid Waste Division
614 Division Street, MS-27
Port Orchard, WA 98366

Re: Second Quarter 2024 Environmental Monitoring Report
Hansville Landfill, Kitsap County, Washington
Project No. AS160423-05-5.1

Dear Alexis:

This quarterly report summarizes the results of environmental monitoring conducted at the Hansville Landfill (Site) during the second quarter 2024, and was prepared by Aspect Consulting, (Aspect) on behalf of Kitsap County Public Works Solid Waste Division (County) and Waste Management of Washington (WMW). Ongoing environmental monitoring at the Site supports the selected remedy of natural attenuation of groundwater with enhanced monitoring and institutional controls that was established under Amended Consent Decree No. 95-2-03005-1 (August 5, 2011).

The datasets presented in this letter report were collected in accordance with the "Site Cleanup Action Plan" (CAP; Ecology, 2011) and the "Compliance Monitoring Plan with Sampling & Analysis Plan and Quality Assurance Plan" (SCS, 2011; herein referred as Compliance Monitoring Plan), except where otherwise noted. These documents were prepared and approved by the Washington State Department of Ecology (Ecology) as part of the Site-specific cleanup actions under the Model Toxics Control Act (MTCA) cleanup regulations.

Conditions monitored at the Site during the second quarter 2024 were consistent with historical trends showing improvements in protection of human health and the environment, as reported in the last annual report (Aspect, 2024). This report is organized consistent with quarterly reporting topics listed in the Compliance Monitoring Plan (SCS, 2011) and includes the following:

- Site monitoring and maintenance activities, along with a discussion of any deviations from the CAP, or required tasks not otherwise documented in project plans
- Landfill gas monitoring results and gas collection system adjustments
- Determination of groundwater flow direction and gradient, including a groundwater surface elevation contour map
- Water quality sampling results, including tabulated field data and laboratory analyses

Also included are time-series plots and projected trends in groundwater concentrations for selected analytes at selected monitoring locations. Finally, this report discusses geochemical parameters as indicators of landfill effects on groundwater and surface water.

Site Activities – Second Quarter 2024

Site activities during the reporting period included environmental monitoring of landfill gas, groundwater, and surface water. Documentation of the quarterly activities is presented in the following attachments:

- **Attachment A** presents landfill gas monitoring data.
- **Attachment B** presents groundwater elevations, a groundwater contour map, and groundwater and surface water quality analytical results.
- **Attachment C** presents summary statistics, time-series graphs, and graphs of projected groundwater concentrations for arsenic and vinyl chloride at selected monitoring wells.
- **Attachment D** presents supporting field records, laboratory data reports, and chain-of-custody documentation.

A chronology of on-Site monitoring activities performed during the second quarter 2024 is provided below:

- On April 17, 2024, Aspect completed groundwater and surface water monitoring.
- On April 24, 2024, Aspect completed the monthly performance monitoring of the blower system and condensate management system.
- On May 16, 2024, Aspect conducted monthly performance monitoring of the landfill gas blower system and condensate management system.
- June 26, 2024, Aspect conducted landfill gas compliance monitoring, which included measuring landfill gas concentrations at compliance monitoring probes, across the extraction wellfield, and at the blower.

Deviations from the Compliance Monitoring Plan

There were no deviations from the Compliance Monitoring Plan (SCS, 2011) during the second quarter 2024 environmental monitoring.

Summary of Landfill Gas Conditions

The following sections provide a discussion of landfill gas monitoring and gas extraction system performance. The layout of the landfill gas extraction system is shown on Figure A-1.

Landfill Gas Monitoring

Aspect monitored landfill gas concentrations at the blower on April 24, May 16, and June 26, 2024. Aspect monitored landfill gas concentrations at the compliance monitoring probes and the extraction wellfield on June 26, 2024.

Landfill gas conditions were measured with a calibrated GEM 5000 multigas meter. Landfill gas monitoring parameters collected for the compliance monitoring event are summarized in Table A-1 and listed below:

- Landfill gas composition measurements included methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), and balance gas (Balance) concentrations.

- Pressure measurements included the system pressure representing the vacuum available at the wellhead, and the static pressure representing the equilibrium downhole pressure.
- Temperature measurements are made at the wellhead except near the blower.
- Collection system flow-rate measurements were obtained at selected locations via orifice plates. The differential pressure and gas temperature were measured to calculate flow. Table A-1 presents flow rates measured after valve adjustments.

Landfill Gas System Performance

During the compliance monitoring event on June 26, 2024, conditions observed at the blower remained within the normal range. Methane and carbon dioxide concentrations at the blower inlet were approximately 3.2 percent by volume and 16.1 percent by volume, respectively. The oxygen concentration was approximately 3 percent by volume. Flow rates were approximately 112 standard cubic feet per minute (scfm) during the second quarter. Both blowers for the landfill gas collection system have been in operation since January 2023, resulting in greater landfill gas collection rates. Wellfield optimization will continue to focus on maximizing methane and carbon dioxide collection rates.

Biofilter Bed Treatment Performance

The biofilter bed (biobed) was installed in early March 8, 2023, to replace the existing flare system. Based on surface methane concentration measurements made during 2023, the biobed appears to be effectively reducing greenhouse gas emissions and controlling odor.

Surface methane concentrations were generally less than the design criterion of 1.25 percent methane (25 percent of the lower explosive limit), with the following exceptions. Methane was detected at concentrations of up to 3.1 percent by volume at four small depressions measuring less than 3 by 3 inches wide and less than 3 inches deep. These conditions were observed when the sample tubing was held 1 inch above the depressions for 20 to 30 seconds. Biobed surface methane concentrations approaching the blower inlet concentrations may indicate preferential discharge pathways that could be addressed by rototilling the biofilter media or adding additional biofilter media.

Explosive Gas Control

Methane was not detected in any of the compliance gas probes during the compliance monitoring event on June 26, 2024. Locations of on-property compliance probes GP-1, GP-2S, GP-2M, GP-2D, GP-3, GP-4, GP-5, and GP-6 are shown on Figure A-1, and the location of off-property compliance probe GP-7 is shown on Figure B-1. Carbon dioxide concentrations ranged from 0.1 to 3.1 percent by volume, reflecting natural conditions. Aspect observed an animal bore hole under monitoring probe GP-6.

Summary of Groundwater and Surface Water Conditions

This section addresses groundwater and surface water conditions based on the monitoring event on April 17, 2024. Samples were collected from six groundwater monitoring wells and from four surface water monitoring locations (Figure B-1) for laboratory analysis.

Groundwater Flow

Groundwater flow conditions during the second quarter 2024 were consistent with those observed during previous monitoring events. Groundwater surface elevations were calculated using water levels measured on April 17, 2024 (Table B-1). Groundwater elevations ranged from 238.2 feet North American Vertical Datum of 1988 (NAVD88) in MW-12I to 266.4 feet NAVD88 in the upgradient, background monitoring well MW-5. The direction of groundwater flow at the Site was west across the landfill then shifted southwest, consistent with historical observations. Groundwater gradients ranged from 0.0074 feet over feet (feet/feet) in the upgradient areas, to 0.013 feet/feet farther downgradient, with the gradient steepening near the groundwater discharge area (Figure B-1).

Groundwater and Surface Water Quality

Groundwater quality results from the second quarter 2024 were consistent with historical ranges and trends. Groundwater quality results presented in Table B-2 include field parameters, conventional parameters, dissolved metals, and volatile organic compounds. During the reporting period, dissolved arsenic concentrations in groundwater were below the Site-specific cleanup level of 0.005 milligrams per liter (mg/L) at all monitoring wells except MW-14 (0.0118 mg/L). Dissolved manganese concentrations were below the Site-specific cleanup level of 2.24 mg/L and below the MTCA Method B noncancer formula value[1] of 0.75 mg/L at all wells. Vinyl chloride concentrations in groundwater were below the Site-specific groundwater cleanup level of 0.025 micrograms per liter (µg/L) at all monitoring wells except MW-6 (0.045 µg/L) and MW-12I (0.041 µg/L); consistent with previous years.

Surface water quality results from the second quarter 2024 are presented in Table B-3 and include field parameters, conventional parameters, dissolved metals, and volatile organic compounds. During the reporting period, surface water concentrations of dissolved arsenic, dissolved manganese, and vinyl chloride were below the respective Site-specific cleanup levels.

Time-Series Plots and Projected Trends

Groundwater sampling results since 2007 are shown on time-series plots for dissolved arsenic (Figure C-1) and vinyl chloride (Figure C-2) at all compliance monitoring locations. Figure C-1 shows that dissolved arsenic concentrations in groundwater have consistently been less than the 0.005 mg/L cleanup level at MW-5 (background well), MW-6, MW-7, and MW-12I. Dissolved arsenic concentrations at MW-13D were historically below the cleanup level until 2019. Dissolved arsenic concentrations at MW-14 have historically exceeded the Site-specific cleanup level and have been decreasing over time, although at a slower rate since 2020.

Figure C-2 shows vinyl chloride concentrations in groundwater have been less than the Site-specific cleanup level of 0.025 µg/L at MW-5 (background well), MW-7, and MW-13D. The concentrations of vinyl chloride at MW-6, MW-12I, and MW-14 have historically exceeded the Site-specific cleanup level and have been decreasing over time. In the second quarter 2024, the

[1] As noted in the Agency Review Draft Remedial Action Status Report (Aspect, 2022), the MTCA Method B noncancer formula value for manganese in groundwater was revised downwards to a concentration below the Site-specific cleanup level. This new state regulation does not affect the Site-specific restoration time frames. This new value will be included in reporting going forward to provide context. The Hansville Site Cleanup Levels were established by the 2011 CAP and Compliance Monitoring Plan, and remain the basis for measuring remedial action performance.

concentration of vinyl chloride at MW-12I was 0.041 µg/L, above the Site-specific cleanup level. Concentrations are expected to fluctuate, but continue to decrease as indicated by the trends (discussed below). The vinyl chloride concentration at MW-14 during the second quarter 2024 remain consistent with the historical decreasing trend.

Figure C-3 shows time-series plots of historical and 10-year projected groundwater concentrations for MW-6 (vinyl chloride), MW-12I (vinyl chloride), MW-14 (vinyl chloride and arsenic), and MW-13D (arsenic). The projected restoration time frames for vinyl chloride concentrations range from approximately 0 to 7 years. Dissolved arsenic concentrations at MW-13D peaked slightly above the cleanup level in 2020 and now appear to be decreasing slowly over time. For context, a linear trendline is used to project dissolved arsenic concentrations at MW-13D, which remain below the Puget Sound regional background of 8 µg/L (Ecology, 2016; Ecology, 2022) for more than 10 years. The projected restoration time frame for arsenic in groundwater at MW-14 is more than 10 years. In January 2023, the landfill gas collection system flow rate was increased by operating both blowers with the intention of achieving groundwater cleanup levels within a shorter time frame than shown on Figure C-3.

Statistical Evaluation of Groundwater Trends

Statistically significant decreasing trends in dissolved arsenic and/or vinyl chloride concentrations were identified at monitoring wells MW-6, MW-12I, and MW-14. We attribute the decreasing trends to the cleanup actions at the Site, and project concentrations will continue to decrease to Site-specific cleanup levels as described above and shown in Figure C-3.

A statistically significant increasing trend in dissolved arsenic concentrations was identified at monitoring well MW-13D. Dissolved arsenic concentrations were slightly below the Site-specific cleanup levels during this monitoring period and remain below the regional natural background value provided by Ecology (Ecology, 2016; Ecology, 2022), as shown on Figure C-3. Statistical trend analysis for dissolved arsenic concentrations in MW-13D has been conducted since the "2019 Annual Environmental Monitoring Report" (Aspect, 2020). As previously noted in the 2019 Report, based on the data available, it is likely that arsenic concentrations since 2007 reflect natural variations or off-Site influences, as opposed to effects from the Hansville Landfill Site. Dissolved arsenic concentrations in MW-13D, and other locations continue to be closely monitored and evaluated.

Table C-1 provides results of statistical analysis for arsenic and vinyl chloride for monitoring wells MW-6, MW-12I, MW-13D, and MW-14. The trends are defined as "statistically significant" because the magnitude of the Mann-Kendall Test Value (Z) was greater than the Critical Value (which is based on the number of data points and alpha). A negative Sen's slope indicates a decreasing trend in concentrations while a positive Sen's slope indicates an increasing trend.[2] These statistics confirm what is visually apparent on Figure C-3 showing historical groundwater concentrations.

[2] Sen's slope values reflect the median of the slopes of historical data pairs, and were provided in units of µg/L per day in reports by SCS through 2016. Starting in 2017, Sen's slope values will be provided in units of µg/L per year to support interpretation. For comparison, Table C-1 provides Sen's slope values for both units.

The statistical analysis of groundwater data was performed in accordance with the Compliance Monitoring Plan (SCS, 2011) for historical data collected since January 23, 2007. The program Sanitas (ver. 10) was used to evaluate the Mann-Kendall Test and Sen's slope. Mann-Kendall testing was performed to assess whether there were statistically significant trends in groundwater concentrations using the two-tailed test (alpha = 0.05). Mann-Kendall results are reported as an approximated normal distribution Test Value "Z" (where the number of data points was greater than 40). Sen's slope analysis was performed to identify the trend direction for statistically significant trends and reflects the median of the slopes of all pairs of historical data.

Geochemical Parameters

Geochemical parameters in groundwater and surface water serve as indicators of landfill effects and can distinguish leachate impacts from gas-to-groundwater impacts. As shown in Tables B-2 and B-3, geochemical parameters collected at the Site include field parameters (dissolved oxygen, pH, Redox [reduction-oxidation potential], specific conductivity, and temperature), alkalinity/carbonate/bicarbonate, chloride, nitrate/nitrite/ammonia, sulfate, and total organic carbon.

Based on low concentrations of geochemical parameters identified as leachate indicators (such as chloride, sulfate, alkalinity, and bicarbonate) across the Site, there appears to be little if any leachate effect on groundwater and surface water quality. However, the downgradient monitoring wells show lower dissolved oxygen concentrations than the upgradient well (MW-5), which is likely caused by landfill gas coming in contact with groundwater directly beneath the landfill. Increasing the rate of landfill gas collection may prevent geochemically mediated effects on groundwater.

References

Aspect Consulting, LLC (Aspect), 2020, 2019 Annual Environmental Monitoring Report, Hansville Landfill, Kitsap County, Washington, February 28, 2020.

Aspect Consulting, LLC (Aspect), 2022, Agency Review Draft Remedial Action Status Report, Hansville Landfill Site, Kitsap County, Washington, June 28, 2022.

Aspect Consulting, (Aspect), 2024, Annual Environmental Monitoring Report, Hansville Landfill, Kitsap County, Washington, February 29, 2024.

SCS Engineers (SCS), 2011, Compliance Monitoring Plan with Sampling & Analysis Plan and Quality Assurance Plan – Remedial Action at the Hansville Landfill, September 15, 2011.

Washington State Department of Ecology (Ecology), 2011, Cleanup Action Plan Hansville Landfill, Kitsap County, Washington, Ecology Facility Site Identification Number: 2605, June 2011.

Washington State Department of Ecology (Ecology), 2016, Natural Background Groundwater Arsenic Concentrations in Washington State, Ecology Publication No. 14-09-044, March 2016.

Washington State Department of Ecology (Ecology), 2022, Natural Background Groundwater Arsenic Concentrations in Washington State, Ecology Publication No. 14-09-044, Draft for Public Comment published July 2021; Revised January 2022.

Limitations

Work for this project was performed for Kitsap County Public Works (Client), and this letter was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This letter does not represent a legal opinion. No other warranty, expressed or implied, is made.

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Sincerely,

Aspect consulting,

8/27/2024

Carmen Tappero, GIT
Staff Geologist
carmen.tappero@aspectconsulting.com

Peter S. Bannister, PE
Principal Engineer
peter.bannister@aspectconsulting.com

Attachments:
Attachment A – Landfill Gas Data
Attachment B – Water Quality Results
Attachment C – Groundwater Statistics and Time-Series Plots
Attachment D – Field Forms and Laboratory Reports

cc: Steve Brown, Kitsap County Public Health Department
Jakob Hughes, Kitsap County Public Health Department
Cris Matthews, Washington State Department of Ecology
Joshua Carter, Julie Raymond, and Roma Call, Port Gamble S'Klallam Tribe, Kitsap Public Health District

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ATTACHMENT A

Landfill Gas Data

Table A-1. Landfill Gas Data, Second Quarter, 2024

Project No. 160423, Hansville Landfill, Hansville, Washington

Location	Map ID	Date/Time	Methane CH_4 (% by vol)	Carbon Dioxide CO_2 (% by vol)	Oxygen O_2 (% by vol)	Balance Bal (% by vol)	System Pressure ("H_2O)	Static Pressure ("H_2O)	Wellhead Temperature (°F)	Flow Rate (SCFM)
Blower Inlet		6/26/24 8:34	3.2	16.1	2.9	77.8	-7.81	-6.24	63.2	112.1
Blower Outlet		6/26/24 8:40	3.2	16.1	2.8	77.9	0.21	N/A	92.5	N/A
Extraction Well 001	R-1	6/26/24 13:38	4.6	15.8	0.1	79.5	-1.84	-1.08	69.9	0.5
Extraction Well 002	R-2	6/26/24 13:59	1.4	13.5	6	79.1	-2.18	N/A	81.7	N/A
Extraction Well 003	R-3	6/26/24 14:06	5.3	16.9	0	77.8	-6.63	-2.21	68.7	3.7
Extraction Well 004	R-4	6/26/24 14:19	2.9	17.4	1.4	78.3	-6.79	-2.44	75.6	3.3
Extraction Well 005	R-5	6/26/24 15:04	2.9	18.7	0.7	77.7	-4.69	-1.87	79.8	3.6
Extraction Well 006	R-6	6/26/24 15:18	2.4	9.7	9.7	78.2	-4.93	-2.62	93	3.6
Extraction Well 007	R-7	6/26/24 14:57	0	15.3	3.1	81.6	-6.23	-2.04	68.6	3.3
Extraction Well 008	R-8	6/26/24 13:04	3.8	19.1	0.1	77	-4.31	-1.65	68.9	2.4
Extraction Well 009	R-9	6/26/24 13:14	1.2	13.2	5.6	80	-2.16	N/A	107.4	N/A
Extraction Well 010	R-10	6/26/24 13:31	5.1	10.8	5.5	78.6	-2.38	-1.51	70.5	1.5
Extraction Well 011	R-11	6/26/24 13:26	2.6	13.8	0	83.6	-1.84	-1.55	71.3	1.6
Extraction Well 012	R-12	6/26/24 14:36	6.2	8.7	0	85.1	-2.68	-2.07	64	0.7
Extraction Well 013	R-13	6/26/24 14:52	2.6	15	2.3	80.1	-5.34	N/A	74.7	N/A
Trench Collector TD-1	TD-1	6/26/24 12:54	1.3	20.5	0.2	78	-4.84	0.41	68.4	18.1
Trench Collector TR-1	TR-1	6/26/24 15:23	0.2	10.8	10.1	78.9	-5.86	-1.88	77.8	3.3
Trench Collector TR-2	TR-2	6/26/24 13:09	4.5	18.1	1	76.4	-2.09	N/A	62.9	N/A
Trench Collector TR-3	TR-3	6/26/24 13:43	2.9	17.6	1.2	78.3	-1.82	N/A	66.3	N/A
Trench Collector TR-4	TR-4	6/26/24 14:24	1.4	19.6	0	79	-6.55	-1.79	69.1	3.7
Trench Collector TR-5	TR-5	6/26/24 14:46	3.3	16.4	2.9	77.4	-2.18	N/A	69.2	N/A
Trench Collector TR-6	TR-6	6/26/24 14:42	4.5	16.6	2.1	76.8	-2.91	N/A	65.1	N/A
Trench Collector TR-7	TR-7	6/26/24 14:13	5.8	15.9	1.5	76.8	-6.79	-1.89	67.8	3.8
Gas Probe 1	GP-1	6/26/24 9:31	0	1.3	19.6	79.1	-0.03	N/A	N/A	N/A
Gas Probe 2 Shallow	GP-2S	6/26/24 10:14	0	0.1	21.2	79.1	0	N/A	N/A	N/A
Gas Probe 2 Middle	GP-2M	6/26/24 10:19	0	1.2	19	78.7	-0.16	N/A	N/A	N/A
Gas Probe 2 Deep	GP-2D	6/26/24 10:30	0	1.4	18.4	79.8	-0.26	N/A	N/A	N/A
Gas Probe 3	GP-3	6/26/24 10:50	0	1	20.5	80.2	0.02	N/A	N/A	N/A
Gas Probe 4	GP-4	6/26/24 11:12	0	1.5	20	78.5	-0.02	N/A	N/A	N/A
Gas Probe 5	GP-5	6/26/24 12:20	0	0.1	20.9	78.5	-0.03	N/A	N/A	N/A
Gas Probe 6	GP-6	6/26/24 12:36	0	2.8	17.4	79	-0.04	N/A	N/A	N/A
Gas Probe 7	GP-7	6/26/24 11:51	0	3.1	18.2	79.8	-0.09	N/A	N/A	N/A

Notes

System pressure represents the vacuum available at the wellhead. Static pressure represents the equilibrium downhole pressure.

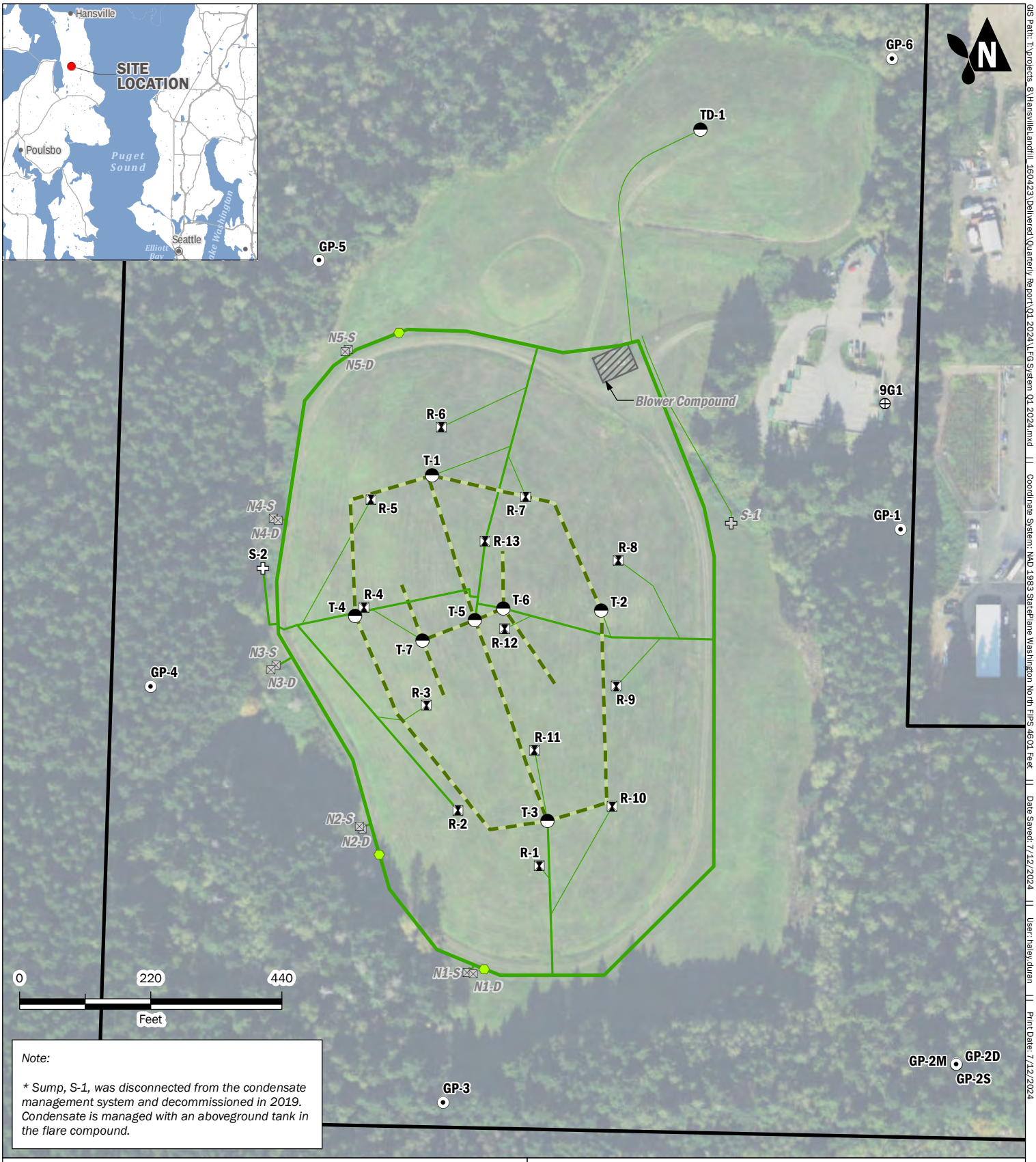
Flow rates measured using orifice plates (where installed).

N/A = indicates parameter not measured.

"H^2O = inches water column

°F = degrees Fahrenheit

SCFM = standard cubici feet per minute



Note:

** Sump, S-1, was disconnected from the condensate management system and decommissioned in 2019. Condensate is managed with an aboveground tank in the flare compound.*

Exploration

- Gas Detection Probe
- Gas Extraction Well (in Refuse Completion)
- Gas Extraction Well (Native Soil Completion) *Disconnected in October, 2019*
- Trench Completion
- Well Geologic Control
- Condensate Sump
- Condensate Sump* *Decomissioned in 2019*

Landfill Gas System

- LFG Pipe - 2"
- LFG Pipe - 4"
- LFG Pipe - 6"
- Trench
- LFG Valve
- Landfill Boundary

Landfill Gas System

2024 Second Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, Washington

Aspect Consulting	JUL-2024	BY: MLK / RAP	FIGURE NO. A-1
	PROJECT NO. 160423	REVISED BY: TDR / HMD	

GIS Path: T:\projects_8\Hansville\Landfill_160423\Delivered\Quarterly Report\Q1 2024\LFG System Q1 2024.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 7/12/2024 || User: haley.duran || Print Date: 7/12/2024

ATTACHMENT B

Water Quality Results

Table B-1. Water Level Elevations

Project No. 160423, Hansville Landfill, Hansville, WA

Well	Ground Elevation (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Screen Elevation (ft NAVD88)		Depth to Water (ft)	Water Level Elevation (ft NAVD88)
			Top	Bottom		
MW-5	363.7	366.9	244	234	100.50	266.4
MW-6	332.0	332.7	260	245	74.33	258.4
MW-7	344.3	346.0	259	244	85.15	260.9
MW-12I	245.6	248.1	217	207	9.91	238.2
MW-13D	258.1	260.4	205	195	11.20	249.2
MW-14	338.6	341.1	262	247	82.36	258.7

Notes:

Depths to water collected April 17, 2024.

Elevations relative to North American Vertical Datum of 1988 (NAVD88).

ft = feet

Table B-2. Groundwater Quality Results

Project No. 160423, Hansville, Washington

			Location	MW-5	MW-6	MW-7	MW-12I	MW-13D	MW-14	MW-8
			Date	04/17/2024	04/17/2024	04/17/2024	04/17/2024	04/17/2024	04/17/2024	04/17/2024
			Sample	MW-5-240417	MW-6-240417	MW-7-240417	MW-12I-240417	MW-13D-240417	MW-14-240417	MW-8-240417
Analyte	**Unit**	**Hansville SCL**								
Conventionals										
Alkalinity as Bicarbonate	mg/L			**77**	**100**	**140**	**130**	**72**	**100**	--
Alkalinity as Carbonate	mg/L			< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	--
Alkalinity, Total	mg/L			**77**	**100**	**140**	**130**	**72**	**100**	--
Ammonia as Nitrogen	mg/L			< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	--
Chloride	mg/L			**3.3**	**4.4**	< 3 U	**9.7**	**5.5**	**4.7**	--
Nitrate as Nitrogen	mg/L			**3.13**	--	**0.557**	< 0.1 U	< 0.1 U	< 0.1 U	**0.329**
Nitrite as Nitrogen	mg/L			< 0.1 U	--	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Orthophosphate	mg/L			**0.039**	--	**0.052**	**0.048**	**0.084**	**0.122**	**0.035**
Sulfate	mg/L			**8**	**17**	**6.1**	**11**	**16**	**10**	--
Total Organic Carbon	mg/L			< 1 U	< 1 U	**1.5**	**1.9**	< 1 U	**1.3**	--
Field Parameters										
Temperature	deg C			**9.19**	**12.2**	**9.2**	**9.91**	**10.44**	**10.9**	--
Specific Conductance	uS/cm			**121.04**	**227.9**	**264.3**	**181.73**	**113.15**	**214**	--
Dissolved Oxygen	mg/L			**9.12**	**0.32**	**0.93**	--	--	**32**	--
pH	pH units			**7.8**	**7.18**	**6.21**	**7.41**	**8.2**	**7.25**	--
Oxidation Reduction Potential	mV			**196.5**	**201.7**	**121.5**	**83.5**	**45.2**	**206.9**	--
Turbidity	NTU			**0.72**	**1.39**	**0.86**	**1.23**	**8.03**	**1**	--
Metals, dissolved										
Arsenic	ug/L	5		**1.69**	**1.95**	**1.37**	**2.57**	**4.95**	**11.8**	--
Manganese	ug/L	2240		< 1 U	**190**	**1.2**	**67**	**14**	**1100**	--
VOCs										
Vinyl Chloride	ug/L	0.025		< 0.02 U	**0.045**	< 0.02 U	**0.041**	< 0.02 U	< 0.02 U	--

Notes

Bold - detected

Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

mV = millivolts

µS/cm = microSiemens per centimeter

deg C = degrees Celsius

NTU = Nephelometric Turbidity Units

mg/L = milligram per liter

ug/L = microgram per liter

Table B-3. Surface Water Quality Results

Project No. 160423, Hansville, Washington

		Location	SW-1	SW-4	SW-6	SW-7
		Date	04/17/2024	04/17/2024	04/17/2024	04/17/2024
		Sample	SW-1-240417	SW-4-240417	SW-6-240417	SW-7-240417
Analyte	**Unit**	**Hansville SCL**				
Conventionals						
Alkalinity as Bicarbonate	mg/L		**74**	**140**	**56**	**65**
Alkalinity as Carbonate	mg/L		< 10 U	< 10 U	< 10 U	< 10 U
Alkalinity, Total	mg/L		**74**	**140**	**56**	**65**
Ammonia as Nitrogen	mg/L		< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Chloride	mg/L		**5.8**	**11**	**4.2**	**4**
Nitrate as Nitrogen	mg/L		**1.55**	**0.781**	< 0.1 U	**0.61**
Nitrite as Nitrogen	mg/L		< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Orthophosphate	mg/L		**0.028**	**0.02**	**0.028**	**0.055**
Sulfate	mg/L		**9.1**	**22**	**6.5**	**9.1**
Total Organic Carbon	mg/L		**1.8**	**6.5**	**14**	**7.2**
Field Parameters						
Temperature	deg C		**9.3**	**8.9**	**8.9**	**9.1**
Specific Conductance	uS/cm		**184.8**	**339.3**	**130.5**	**157.3**
Dissolved Oxygen	mg/L		**11.07**	**12.05**	**12.66**	**12.79**
pH	pH units		**7.16**	**7.74**	**7.16**	**7.37**
Oxidation Reduction Potential	mV		**178.9**	**213.6**	**207.5**	**219**
Turbidity	NTU		**1.17**	**2.5**	**8.67**	**5.31**
Metals, dissolved						
Arsenic	ug/L	5	**1.51**	**1.62**	**2.55**	**1.47**
Manganese	ug/L	2240	**2.7**	**33**	**33**	**5**
VOCs						
Vinyl Chloride	ug/L	0.025	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U

Notes

Bold - detected

Blue Shaded - Detected result exceeded screening level

U - Analyte not detected at or above Reporting Limit (RL) shown

mV = millivolts

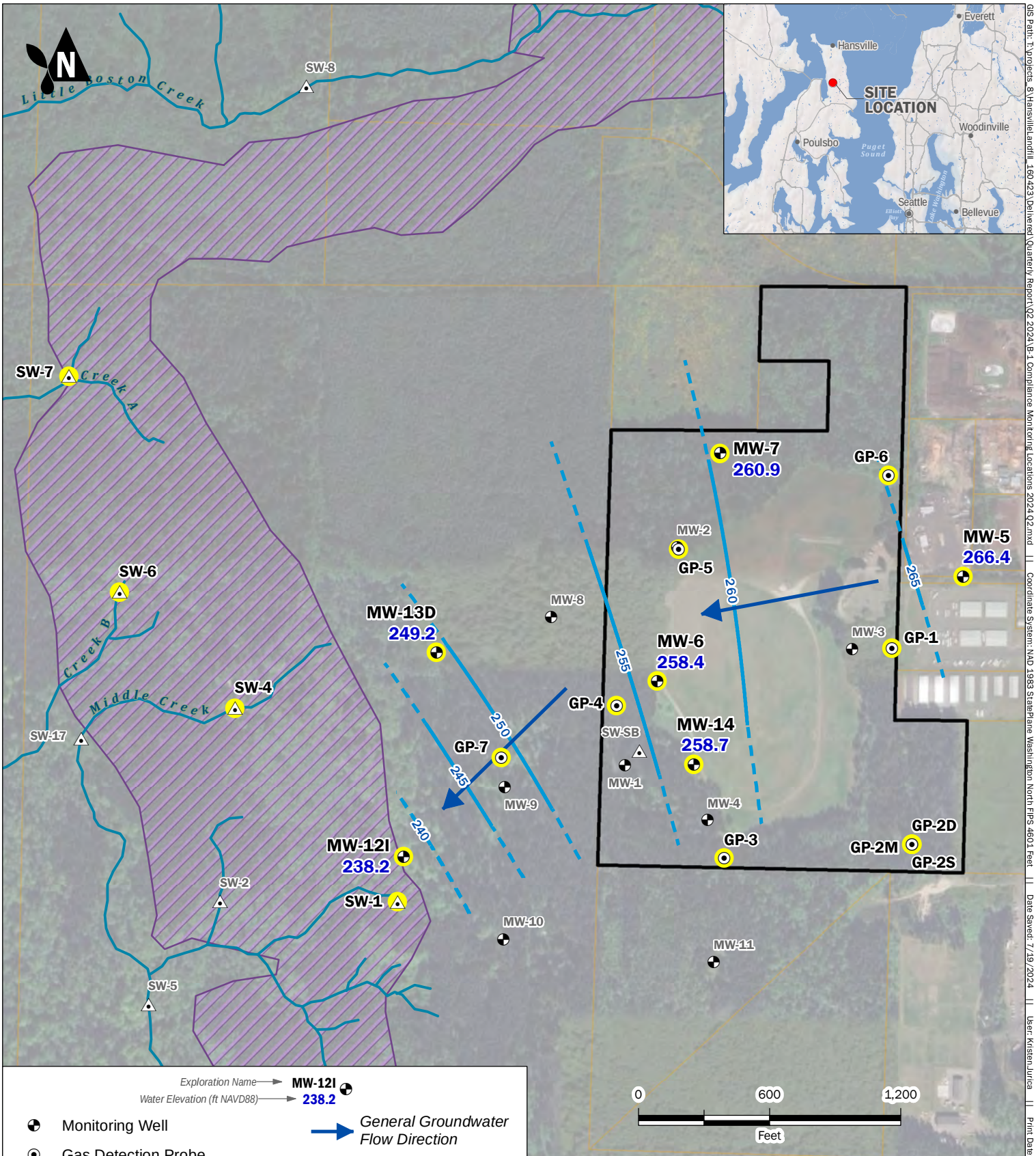
µS/cm = microSiemens per centimeter

deg C = degrees Celsius

NTU = Nephelometric Turbidity Units

mg/L = milligram per liter

ug/L = microgram per liter



Exploration Name → MW-12I
Water Elevation (ft NAVD88) → 238.2

- Monitoring Well
- Gas Detection Probe
- Surface Water Station
- Compliance Monitoring Location
- Water Elevation Contour (ft NAVD88, dashed where inferred) *Measured April 17, 2024*
- *General Groundwater Flow Direction*
- Approximate Area of Groundwater Discharge from Upper Aquifer
- Stream
- Landfill Boundary
- Tax Parcel

Note: Vertical datum is NAVD88. Approximate area of groundwater discharge from upper aquifer delineation from Remedial Investigation Report (Parametrix, 2006).

Compliance Monitoring Locations

2024 Second Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, Washington

Aspect Consulting	JUL-2024	BY: CMT / HMD	FIGURE NO. B-1
	PROJECT NO. 160423	REVISED BY: KMJ	

GIS Path: T:\projects_8\HansvilleLandfill_160423\Delivered\Quarterly Report\Q2 2024\B-1 Compliance Monitoring Locations 2024 Q2.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 7/19/2024 || User: KristenJurica || Print Date: 7/19/2024

ATTACHMENT C

Groundwater Statistics and Time-Series Plots

Table C-1. Statistical Analysis

Project 160423, Hansville Landfill, Hansville, WA

Dissolved Arsenic Statistical Results

Well	Statistical Trend[1]	Mann-Kendall Test[2]				Sen's Slope	
		Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(ug/L per day)	(ug/L per year)
MW-5	--[3]	--	--	--	--	--	--
MW-6	--	--	--	--	--	--	--
MW-7	--	--	--	--	--	--	--
MW-12I	--	--	--	--	--	--	--
MW-13D	Increasing	8.1	1.96	69	Yes	-4.5E-04	-0.166
MW-14	Decreasing	-8.3	-1.96	69	Yes	-2.5E-03	-0.905

Vinyl Chloride Statistical Results

Well	Statistical Trend[1]	Mann-Kendall Test[2]				Sen's Slope	
		Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(ug/L per day)	(ug/L per year)
MW-5	--[3]	--	--	--	--	--	--
MW-6	Decreasing	-9.0	-1.96	70	Yes	-5.7E-05	-0.021
MW-7	--	--	--	--	--	--	--
MW-12I	Decreasing	-8.0	-1.96	70	Yes	-6.3E-05	-0.023
MW-13D	--	--	--	--	--	--	--
MW-14	Decreasing	-9.6	-1.96	70	Yes	-7.6E-05	-0.028

Notes

1 - The Statistical Trend indicates:

"Non-significant" if the magnitude of the Test Value is less than the Critical Value,

"Increasing" if the magnitude of the Test Value is greater than the Critical Value and the Sen's Slope is positive, or

"Decreasing" if the magnitude of the Test Value is greater than the Critical Value and the Sen's Slope is negative.

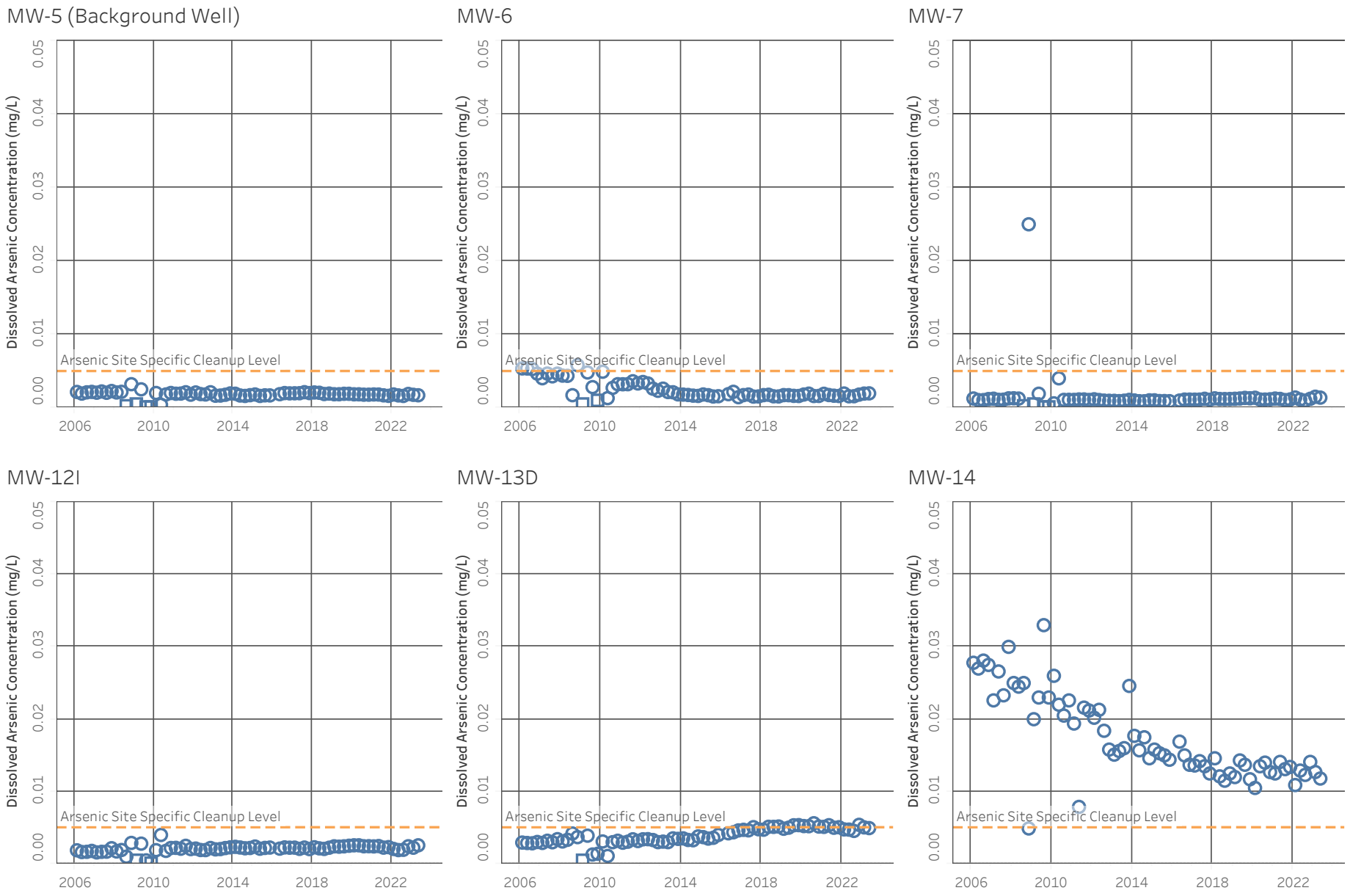
2 - Mann-Kendall tests were performed with alpha = 0.05 (95% confidence level).

For N>40, Mann-Kendall uses an approximation of a normal distribution, represented by Test Value Z.

3 - "--" Indicates statistical analysis not conducted.

ug/L - micrograms per liter

4 - Data range is from 1st quarter 2007 through 1st quarter 2024



Note: Non-detected values are shown at 1/2 the reporting limit. Results from First Quarter 2017 were rejected. See text.

Result Flags

Detected

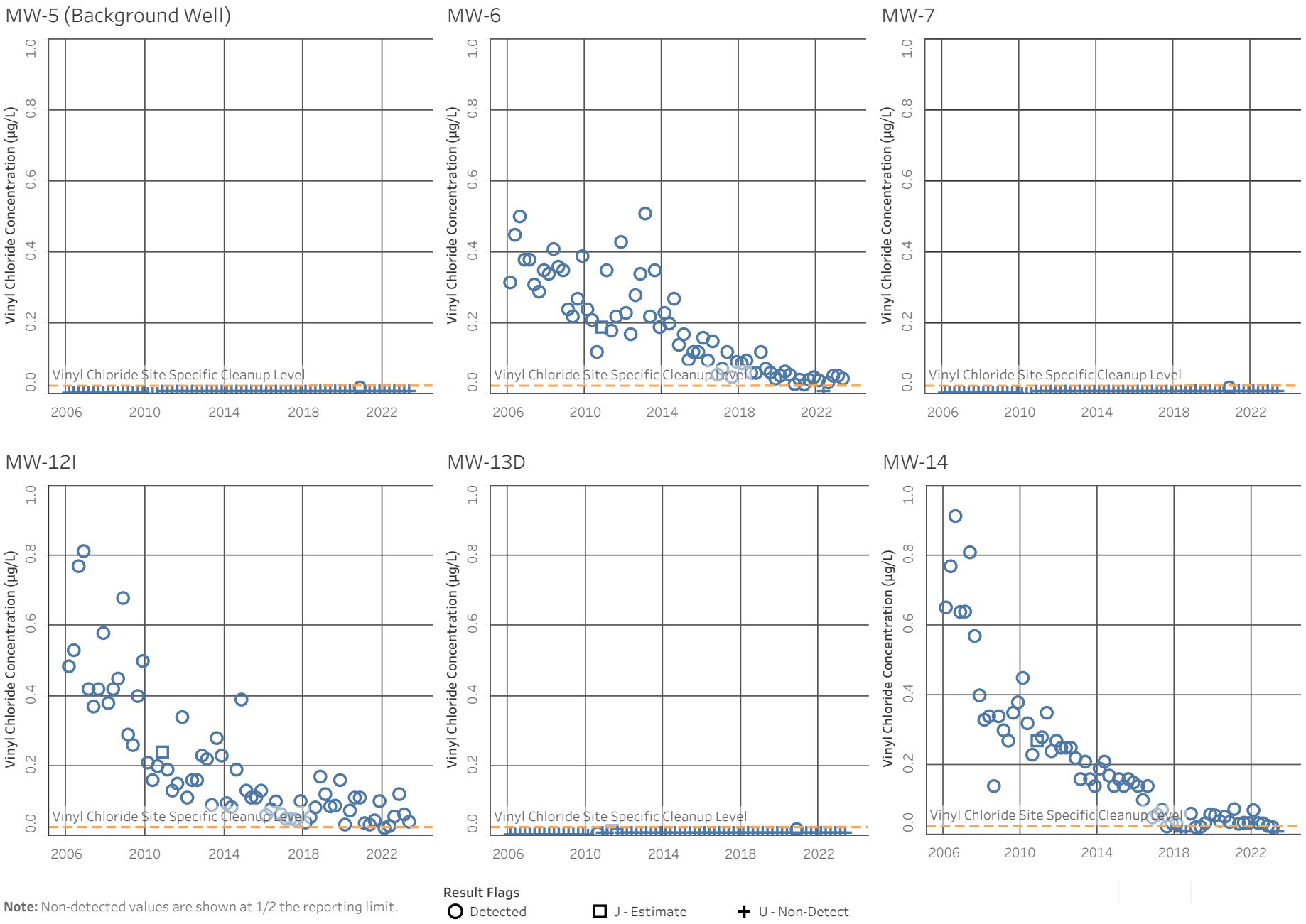
U - Non-Detect

Aspect CONSULTING

07/17/2024
Trend Plots (As)

Figure C-1 - Second Quarter Dissolved Arsenic Sampling Results

2024 Second Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, WA



Note: Non-detected values are shown at 1/2 the reporting limit.

Result Flags

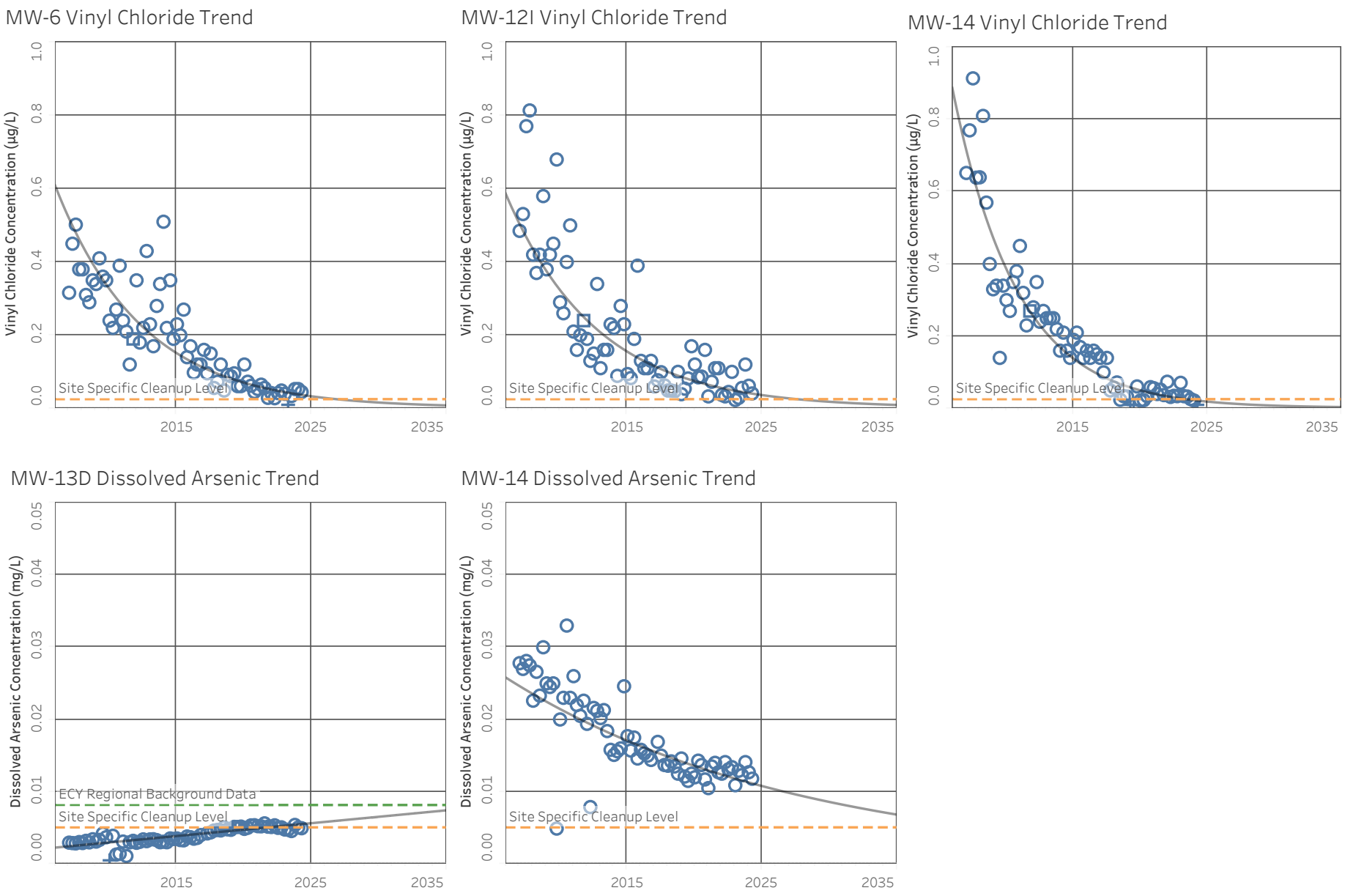
○ Detected □ J - Estimate + U - Non-Detect

Aspect CONSULTING

07/17/2024
Trend Plots (VC) 2021

Figure C-2 - 2024 Second Quarter Vinyl Chloride Sampling Results

2024 Second Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, WA



Note: Non-detected values are shown at 1/2 the reporting limit.
Attentuation curves based on exponential least squares fit to the data.

Aspect CONSULTING

07/17/2024
Trend Plots (VC) 2021

Figure C-3 - 10 Year Attenuation Curves
2024 Second Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, WA

ATTACHMENT D

Field Forms and Laboratory Reports

Aspect CONSULTING

Sample ID: SW-1-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-1 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs) —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): —

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): —

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

*Surface Water Grab

WELL CONDITION

Vault Condition: — Well Sealed? — Lock Present? —

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1045			—	9.3	184.8	11.07	7.16	178.9	1.17	clear, no sheen, no odor

Total Liters Purged: — Total Casing Volumes Removed: — Ending Water Level (ft TOC): —

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1045	40 ml	VOA	3	No	HCL	clear	1.17	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
↓	250 ml	Poly	1	YES	None	↓	↓	FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, ~~Purple and White WLI,~~ Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: —

Aspect CONSULTING

Sample ID: SW-4-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-4 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs): —

Filter Pack Interval (ft. bgs): —

Starting Water Level (ft TOC): —

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): —

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

+ Surface Water Grab

WELL CONDITION

Vault Condition: — Well Sealed? — Lock Present? —

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1140	—	—	—	8.9	339.3	12.05	7.74	213.6	2.50	clear, no sheen, no odor

Total Liters Purged: — Total Casing Volumes Removed: — Ending Water Level (ft TOC): —

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1140	40 ml	VOA	3	No	HCL	Clear	2.50	
	250 ml	Amber	2	No	H2SO4			
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
	250 ml	Poly	1	YES	None			FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, ~~Purple and White WLI~~, Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: —

Aspect CONSULTING

Sample ID: SW-6-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-6 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs): —

Filter Pack Interval (ft. bgs): —

Starting Water Level (ft TOC): —

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): —

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

* Surface Water Grab

WELL CONDITION

Vault Condition: — Well Sealed? — Lock Present? —

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1235	—	—	—	8.9	130.5	12.606	7.16	207.5	8.67	clear/brown, no sheen, no odor

Total Liters Purged: — Total Casing Volumes Removed: — Ending Water Level (ft TOC): —

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1235	40 ml	VOA	3	No	HCL	Clear	8.67	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
↓	500 ml	Poly	2	No	None	↓	↓	1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
↓	500 ml	Poly	2	YES	HNO3	↓	↓	Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
↓	250 ml	Poly	1	YES	None	↓	↓	FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI; Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: —

Aspect CONSULTING

Sample ID: SW-7-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-7 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs) —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): —

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): —

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

* Surface Water Grab

WELL CONDITION

Vault Condition: — Well Sealed? — Lock Present? —

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1335	—	—	—	9.1	157.3	12.79	7.37	219.0	5.31	Clear, no sheen, no odor

Total Liters Purged: — Total Casing Volumes Removed: — Ending Water Level (ft TOC): —

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1335	40 ml	VOA	3	No	HCL	Clear	5.31	
	250 ml	Amber	2	No	H2SO4			
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
	250 ml	Poly	1	YES	None			FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): ~~Orange YSI, Purple and White WLI~~ Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: —

Aspect CONSULTING

Sample ID: MW-7-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-7 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs): —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): 85.15

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): 2"

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: good Well Sealed? yes Lock Present? yes

Standing Water in Vault? no Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0754										START
0800			85.16	9.3	247.7	3.64	6.00	144.1	13.0	clear, no sheen, no odor
0805			85.16	9.3	242.3	1.43	6.00	132.8	7.90	
0810			85.16	9.2	243.8	1.20	6.04	129.0	3.50	
0815			85.15	9.2	247.5	1.03	6.09	126.4	2.01	
0820			85.16	9.2	250.2	1.02	6.12	124.7	1.42	
0825			85.20	9.2	256.7	0.97	6.16	123.1	1.37	
0830			85.24	9.2	258.6	0.96	6.17	122.6	1.06	
0835			85.16	9.2	264.3	0.93	6.21	121.5	0.86	
0840										Sampled

Total Liters Purged: 10 Total Casing Volumes Removed: — Ending Water Level (ft TOC): 85.14

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
0840	40 ml	VOA	3	No	HCL	clear	0.86	
	250 ml	Amber	2	No	H2SO4			
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
	250 ml	Poly	1	YES	None			FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: CPM: 2 refill: 20s discharge: 10 seconds

Aspect CONSULTING

Sample ID: MW-5-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423
Date: 4/17/2024
Sampled by: CMT / FCE
Measuring Point of Well: NTOC
Screened Interval (ft. bgs) —
Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): 100.50
Sample Intake Depth (ft TOC): Dedicated tubing
Total Depth After Sampling (ft TOC): 126.64
Casing Diameter (inches): 2"

Casing Volume 26.14 (ft Water) x 0.62 (L/ft) = 16 (L)
Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: Good Well Sealed? Yes Lock Present? Yes
Standing Water in Vault? No Ecology Well Tag Present (and Number if yes)? No

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0943			100.50							Begin purging
0948	0.50	0.1	100.50	9.32	122.46	8.75	6.92	217.5	5.08	
0953	1.0		100.5	9.35	121.63	8.94	7.08	216.1	4.32	
0958	1.5		100.5	10.19	121.10	9.14	7.50	208.5	1.57	
1003	2.0		100.5	9.66	121.06	9.17	7.69	199.7	0.86	
1008	2.5		100.5	9.19	121.04	9.12	7.80	196.5	0.72	
1012										Sample

Total Liters Purged: 4 Total Casing Volumes Removed: 0.25 Ending Water Level (ft TOC): 100.5

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1012	40 ml	VOA	3	No	HCL	Clear	1.20	
	250 ml	Amber	2	No	H2SO4			
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
	250 ml	Poly	1	YES	None			FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR ~~Green~~ Blue Aqua Troll, green turbidimeter, purple WLI
Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water
Disposal of Discharged Water: On site
Observations/Comments: —

Aspect CONSULTING

Sample ID: MW-13-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-13A Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs) —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): 11.20

Sample Intake Depth (ft TOC): Dedicated tubing

Total Depth After Sampling (ft TOC): 57.99 J

Casing Diameter (inches): 2"

Casing Volume 46.79 (ft Water) x 0.62 (L/ft) = 29.08 (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: Good Well Sealed? Yes Lock Present? Yes

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1157	—	—	11.42	—	—	—	—	—	—	Begin Purging
1200	1	0.2	11.42	10.35	116.80		8.01	75.0	33.0	
1205	2	↓	11.42	10.44	115.94		8.45	75.6	21.5	
1208										Paused purging
1210	—	—	—	—	—	—	—	—	—	Resume Purging
1215	3	0.2	11.46	10.42	112.03		8.42	70.9	15.4	
1220	4	↓	11.46	10.43	112.05		8.42	59.8	10.1	
1225	5		11.50	10.44	112.40		8.33	48.4	9.48	
1230	6		11.50	10.44	113.03		8.28	47.6	8.65	
1235	7	↓	11.50	10.44	113.15		8.20	45.2	8.03	
1240	—	—	—	—	—	—	—	—	—	Sample

Total Liters Purged: 9 Total Casing Volumes Removed: 0.31 Ending Water Level (ft TOC): 11.35

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1240	40 ml	VOA	3	No	HCL	clear	7.55	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
	250 ml	Poly	1	YES	None			FF, O-phos, to ARI
↓								

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR Blue Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: Issue with DO sensor in Aquatroll. No DO readings collected.

Aspect CONSULTING

Sample ID: MW-121-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-121 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs) —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): 9.91

Sample Intake Depth (ft TOC): Dedicated Bladder tubing

Total Depth After Sampling (ft TOC): 33.04

Casing Diameter (inches): 2"

Casing Volume 23.18 (ft Water) x 0.62 (L/ft) = 14.37 (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: Good Well Sealed? Yes Lock Present? Yes

Standing Water in Vault? No Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1342	—	—	9.95	—	—	—	—	—	—	Begin purging
1347	1.25		9.95	9.88	188.37		7.69	127.4	3.11	
1352	2.5		9.95	9.88	188.16		7.08	140.2	2.03	
1357	5.25		9.95	9.86	185.26		7.77	94.3	1.65	
1402	7.5		9.95	9.85	184.53		7.91	78.8	1.74	
1407	9.25		9.95	9.88	183.57		7.97	71.0	1.06	
1412	11.5		9.95	9.89	183.18		7.91	77.0	1.48	
1417	13.25		9.95	9.91	181.73		7.91	83.5	1.23	~~Sample~~
1425	—	—	—	—	—	—	—	—	—	Sample

Total Liters Purged: 15.35 Total Casing Volumes Removed: 1.07 Ending Water Level (ft TOC): 9.92

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1423	40 ml	VOA	3	No	HCL	Clear	1.22	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
↓	500 ml	Poly	2	No	None	↓	↓	1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
↓	500 ml	Poly	2	YES	HNO3	↓	↓	Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
↓	250 ml	Poly	1	YES	None	↓	↓	FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR ~~Green~~ Blue Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: No DO readings collected - issue with DO sensor in aqua-troll.

Aspect CONSULTING

Sample ID: MW-6-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-6 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs) —

Filter Pack Interval (ft. bgs) —

Starting Water Level (ft TOC): 74.33

Sample Intake Depth (ft TOC): Dedicated tubing

Total Depth After Sampling (ft TOC): 81.76

Casing Diameter (inches): 2"

Casing Volume 7.43 (ft Water) x 0.62 (L/ft) = 4.6 (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: Good Well Sealed? YES Lock Present? YES

Standing Water in Vault? NO Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1515			74.31							Begin purging
1520	0.8	0.16	74.37	12.4	226.9	0.60	7.10	213.0	4.26	
1525	1.6	↓	74.37	12.2	226.1	0.45	7.13	207.7	3.53	
1530	2.4		74.38	12.2	224.5	0.36	7.16	204.8	2.19	
1535	3.2		74.38	12.2	225.7	0.33	7.18	203.1	1.80	
1540	4.0	↓	74.38	12.2	227.9	0.32	7.18	201.7	1.39	
1545										Sample

Total Liters Purged: 5.0 Total Casing Volumes Removed: 1.09 Ending Water Level (ft TOC): 74.40

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1545	40 ml	VOA	3	No	HCL	clear	No	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
↓	250 ml	Poly	1	YES	None	↓	↓	FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: —

Used Orange YSI, Green turbidimeter, purple WLI, and dedicated Bladder pump.

Aspect CONSULTING

Sample ID: MW-14-240417

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14 Page: 1 of 1

Project Name: Hansville Landfill Q2 2024 Project Number: AS160423

Date: 4/17/2024

Sampled by: CMT / FCE

Measuring Point of Well: NTOC

Screened Interval (ft. bgs): —

Filter Pack Interval (ft. bgs): —

Starting Water Level (ft TOC): 82.36

Sample Intake Depth (ft TOC): —

Total Depth After Sampling (ft TOC): —

Casing Diameter (inches): 2"

Casing Volume — (ft Water) x — (L/ft) = — (L)

Casing volumes: 3/4"= 0.09 L/ft 2" = 0.62 L/ft 4" = 2.46 L/ft 6" = 5.56 L/ft

WELL CONDITION

Vault Condition: — Well Sealed? — Lock Present? —

Standing Water in Vault? — Ecology Well Tag Present (and Number if yes)? —

PURGING MEASUREMENTS

Stabilization Criteria (for 3 consecutive readings):		Typical 0.1-0.5 Lpm	Stable (<0.3 ft target)	na	± 3%	± 10% (or ± 0.5 mg/L if < 1 mg/L)	± 0.1	± 10 mV	± 10% (or 3 succesive < 10 NTU)	
Time	Cumul. Volume (L)	Purge Rate (mL/min)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1619										START
1620				10.3	204.2					+ DO fix
										replace Sensor,
1640			~~10.7~~	10.7	243.1	1.84	7.25	220.7	7.46	WL = 82.35
1645			82.36	10.9	216.0	0.43	7.22	213.0	3.62	clear, no sheen,
1650			82.36	10.9	213.8	0.36	7.23	210.6	1.93	no odor
1655			82.36	11.0	213.5	0.34	7.24	208.7	1.54	↓
1700			82.35	10.9	214.0	0.32	7.25	206.9	1.00	↓
1705										Sampled

Total Liters Purged: — Total Casing Volumes Removed: — Ending Water Level (ft TOC): ~~82.35~~ 82.36

SAMPLE INVENTORY

Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1705	40 ml	VOA	3	No	HCL	Clear	1.00	
↓	250 ml	Amber	2	No	H2SO4	↓	↓	
	500 ml	Poly	2	No	None			1 to ARI (No3/No2), 1 to Denver (Alks/Cl/SO4)
	500 ml	Poly	2	YES	HNO3			Both FF, 1 to ARI (Diss As), 1 to Denver (Diss. Mn)
↓	250 ml	Poly	1	YES	None	↓	↓	FF, O-phos, to ARI

METHODS

Parameters measured with (instrument model & serial number): Orange YSI, Purple and White WLI, Orange Turbidimeter OR Green Aqua Troll, green turbidimeter, purple WLI

Purging Equipment: Dedicated Bladder pump or Orange Peri-pump Decon Equipment: Alconox and DI water

Disposal of Discharged Water: On site

Observations/Comments: + DO Sensor fix → replaced Sensor

Field Dup MW-200D-240417 @ 0700.

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Peter Bannister
Aspect Consulting
350 Madison Ave N
Bainbridge Island, Washington 98110

Generated 4/30/2024 10:53:42 AM

JOB DESCRIPTION

Hansville Landfill
2Q_3Q_4Q Sampling

JOB NUMBER

280-190390-1

Eurofins Denver
4955 Yarrow Street
Arvada CO 80002

See page two for job notes and contact information.

Job Notes

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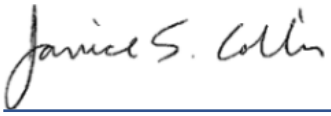

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Authorized for release by
Janice Collins, Project Manager
Janice.Collins@et.eurofinsus.com
(303)736-0100

Table of Contents

Definitions/Glossary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
280-190390-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
- Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report may include reporting limits (RLs) lower than Eurofins Environmental Testing standard reporting limits. The reported sample results and associated reporting limits are being used specifically to meet the needs of this project. Note that data are not normally reported to these levels without qualification because they are inherently less reliable and potentially less defensible than required by the latest industry standards.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 4/19/2024 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0°C and 1.4°C.

Subcontract Work
Methods Dissolved As (ARI) - direct sub to ARI from field, Nitrate/Nitrite/o-phos(field filtered) (ARI) - direct sub to ARI from field: These methods were subcontracted to Analytical Resources, Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

GC/MS VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
Method 6020B - Dissolved: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 280-650452 and analytical batch 280-650604 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Client Sample ID: MW-5-240417 — Lab Sample ID: 280-190390-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3.3		3.0		mg/L	1		300.0	Total/NA
Sulfate	8.0		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	77		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	77		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-6-240417 — Lab Sample ID: 280-190390-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.045		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	190		1.0		ug/L	1		6020B	Dissolved
Chloride	4.4		3.0		mg/L	1		300.0	Total/NA
Sulfate	17		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-7-240417 — Lab Sample ID: 280-190390-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.2		1.0		ug/L	1		6020B	Dissolved
Sulfate	6.1		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	140		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	140		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	1.5		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW-12I-240417 — Lab Sample ID: 280-190390-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.041		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	67		1.0		ug/L	1		6020B	Dissolved
Chloride	9.7		3.0		mg/L	1		300.0	Total/NA
Sulfate	11		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	130		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	130		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	1.9		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW-13D-240417 — Lab Sample ID: 280-190390-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	14		1.0		ug/L	1		6020B	Dissolved
Chloride	5.5		3.0		mg/L	1		300.0	Total/NA
Sulfate	16		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	72		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	72		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-14-240417 — Lab Sample ID: 280-190390-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1100		1.0		ug/L	1		6020B	Dissolved
Chloride	4.7		3.0		mg/L	1		300.0	Total/NA
Sulfate	10		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	1.3		1.0		mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Client Sample ID: MW-20DD-240417 — Lab Sample ID: 280-190390-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1200		1.0		ug/L	1		6020B	Dissolved
Chloride	4.8		3.0		mg/L	1		300.0	Total/NA
Sulfate	10		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	100		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	1.3		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW-1-240417 — Lab Sample ID: 280-190390-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.7		1.0		ug/L	1		6020B	Dissolved
Chloride	5.8		3.0		mg/L	1		300.0	Total/NA
Sulfate	9.1		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	74		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	74		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	1.8		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW-4-240417 — Lab Sample ID: 280-190390-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	33		1.0		ug/L	1		6020B	Dissolved
Chloride	11		3.0		mg/L	1		300.0	Total/NA
Sulfate	22		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	140		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	140		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	6.5		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW-6-240417 — Lab Sample ID: 280-190390-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	33		1.0		ug/L	1		6020B	Dissolved
Chloride	4.2		3.0		mg/L	1		300.0	Total/NA
Sulfate	6.5		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	56		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	56		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	14		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW-7-240417 — Lab Sample ID: 280-190390-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	5.0		1.0		ug/L	1		6020B	Dissolved
Chloride	4.0		3.0		mg/L	1		300.0	Total/NA
Sulfate	9.1		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	65		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	65		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	7.2		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: TB1-240417 — Lab Sample ID: 280-190390-12

No Detections.

Client Sample ID: TB2-240417 — Lab Sample ID: 280-190390-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Method	Method Description	Protocol	Laboratory
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	EET BUF
6020B	Metals (ICP/MS)	SW846	EET DEN
300.0	Anions, Ion Chromatography	EPA	EET DEN
350.1	Nitrogen, Ammonia	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	EET DEN
Subcontract	Dissolved As (ARI) - direct sub to ARI from field	None	SC0056
Subcontract	Nitrate/Nitrite/o-phos(field filtered) (ARI) - direct sub to ARI from field	None	SC0056
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
5030C	Purge and Trap	SW846	EET BUF

Protocol References:

EPA = US Environmental Protection Agency

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

Sample Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-190390-1	MW-5-240417	Water	04/17/24 10:12	04/19/24 09:20
280-190390-2	MW-6-240417	Water	04/17/24 15:45	04/19/24 09:20
280-190390-3	MW-7-240417	Water	04/17/24 08:40	04/19/24 09:20
280-190390-4	MW-12I-240417	Water	04/17/24 14:25	04/19/24 09:20
280-190390-5	MW-13D-240417	Water	04/17/24 12:40	04/19/24 09:20
280-190390-6	MW-14-240417	Water	04/17/24 17:05	04/19/24 09:20
280-190390-7	MW-20DD-240417	Water	04/17/24 07:00	04/19/24 09:20
280-190390-8	SW-1-240417	Water	04/17/24 10:45	04/19/24 09:20
280-190390-9	SW-4-240417	Water	04/17/24 11:40	04/19/24 09:20
280-190390-10	SW-6-240417	Water	04/17/24 12:35	04/19/24 09:20
280-190390-11	SW-7-240417	Water	04/17/24 13:35	04/19/24 09:20
280-190390-12	TB1-240417	Water	04/17/24 07:00	04/19/24 09:20
280-190390-13	TB2-240417	Water	04/17/24 07:00	04/19/24 09:20

Method: SW846 8260C SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-5-240417
Date Collected: 04/17/24 10:12
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*107*		*50 - 150*		*04/28/24 20:40*	*1*
TBA-d9 (Surr)	*84*		*50 - 150*		*04/28/24 20:40*	*1*

Client Sample ID: MW-6-240417
Date Collected: 04/17/24 15:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.045**		0.020		ug/L			04/28/24 21:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*106*		*50 - 150*		*04/28/24 21:04*	*1*
TBA-d9 (Surr)	*81*		*50 - 150*		*04/28/24 21:04*	*1*

Client Sample ID: MW-7-240417
Date Collected: 04/17/24 08:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*110*		*50 - 150*		*04/28/24 21:32*	*1*
TBA-d9 (Surr)	*82*		*50 - 150*		*04/28/24 21:32*	*1*

Client Sample ID: MW-12I-240417
Date Collected: 04/17/24 14:25
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.041**		0.020		ug/L			04/28/24 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*50 - 150*		*04/28/24 21:55*	*1*
TBA-d9 (Surr)	*86*		*50 - 150*		*04/28/24 21:55*	*1*

Client Sample ID: MW-13D-240417
Date Collected: 04/17/24 12:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*110*		*50 - 150*		*04/28/24 22:18*	*1*
TBA-d9 (Surr)	*98*		*50 - 150*		*04/28/24 22:18*	*1*

Client Sample ID: MW-14-240417
Date Collected: 04/17/24 17:05
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 22:41	1

Method: SW846 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*109*		*50 - 150*		*04/28/24 22:41*	*1*
TBA-d9 (Surr)	*81*		*50 - 150*		*04/28/24 22:41*	*1*

Client Sample ID: MW-20DD-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*111*		*50 - 150*		*04/28/24 23:03*	*1*
TBA-d9 (Surr)	*77*		*50 - 150*		*04/28/24 23:03*	*1*

Client Sample ID: SW-1-240417
Date Collected: 04/17/24 10:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 23:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*112*		*50 - 150*		*04/28/24 23:26*	*1*
TBA-d9 (Surr)	*91*		*50 - 150*		*04/28/24 23:26*	*1*

Client Sample ID: SW-4-240417
Date Collected: 04/17/24 11:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 23:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*109*		*50 - 150*		*04/28/24 23:49*	*1*
TBA-d9 (Surr)	*84*		*50 - 150*		*04/28/24 23:49*	*1*

Client Sample ID: SW-6-240417
Date Collected: 04/17/24 12:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/29/24 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*111*		*50 - 150*		*04/29/24 00:12*	*1*
TBA-d9 (Surr)	*83*		*50 - 150*		*04/29/24 00:12*	*1*

Client Sample ID: SW-7-240417
Date Collected: 04/17/24 13:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/29/24 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*112*		*50 - 150*		*04/29/24 00:34*	*1*
TBA-d9 (Surr)	*83*		*50 - 150*		*04/29/24 00:34*	*1*

Method: SW846 8260C SIM - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB1-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/29/24 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*50 - 150*		*04/29/24 00:57*	*1*
TBA-d9 (Surr)	*74*		*50 - 150*		*04/29/24 00:57*	*1*

Client Sample ID: TB2-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/29/24 01:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*50 - 150*		*04/29/24 01:20*	*1*
TBA-d9 (Surr)	*93*		*50 - 150*		*04/29/24 01:20*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Dissolved

Client Sample ID: MW-5-240417
Date Collected: 04/17/24 10:12
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/22/24 15:56	04/23/24 10:26	1

Client Sample ID: MW-6-240417
Date Collected: 04/17/24 15:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**190**		1.0		ug/L		04/22/24 15:56	04/23/24 10:29	1

Client Sample ID: MW-7-240417
Date Collected: 04/17/24 08:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1.2**		1.0		ug/L		04/22/24 15:56	04/23/24 10:33	1

Client Sample ID: MW-12I-240417
Date Collected: 04/17/24 14:25
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**67**		1.0		ug/L		04/22/24 15:56	04/23/24 10:36	1

Client Sample ID: MW-13D-240417
Date Collected: 04/17/24 12:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**14**		1.0		ug/L		04/23/24 08:11	04/23/24 21:54	1

Method: SW846 6020B - Metals (ICP/MS) - Dissolved

Client Sample ID: MW-14-240417
Date Collected: 04/17/24 17:05
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1100**		1.0		ug/L		04/23/24 08:11	04/23/24 21:57	1

Client Sample ID: MW-20DD-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1200**		1.0		ug/L		04/23/24 08:11	04/23/24 22:01	1

Client Sample ID: SW-1-240417
Date Collected: 04/17/24 10:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**2.7**		1.0		ug/L		04/23/24 08:11	04/23/24 22:04	1

Client Sample ID: SW-4-240417
Date Collected: 04/17/24 11:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**33**		1.0		ug/L		04/23/24 08:11	04/23/24 22:08	1

Client Sample ID: SW-6-240417
Date Collected: 04/17/24 12:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**33**		1.0		ug/L		04/23/24 08:11	04/23/24 22:11	1

Client Sample ID: SW-7-240417
Date Collected: 04/17/24 13:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**5.0**		1.0		ug/L		04/23/24 08:11	04/23/24 22:15	1

General Chemistry

Client Sample ID: MW-5-240417
Date Collected: 04/17/24 10:12
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**3.3**		3.0		mg/L			04/22/24 19:42	1
Sulfate (EPA 300.0)	**8.0**		5.0		mg/L			04/22/24 19:42	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 14:46	1
Total Alkalinity (SM 2320B)	**77**		10		mg/L			04/26/24 06:56	1
Bicarbonate Alkalinity (SM 2320B)	**77**		10		mg/L			04/26/24 06:56	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 06:56	1
Total Organic Carbon - Average (SM 5310B)	ND		1.0		mg/L			04/23/24 09:04	1

Client Sample ID: MW-6-240417
Date Collected: 04/17/24 15:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.4**		3.0		mg/L			04/22/24 19:54	1

General Chemistry (Continued)

Client Sample ID: MW-6-240417
Date Collected: 04/17/24 15:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate (EPA 300.0)	**17**		5.0		mg/L			04/22/24 19:54	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 14:54	1
Total Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:15	1
Bicarbonate Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:15	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:15	1
Total Organic Carbon - Average (SM 5310B)	ND		1.0		mg/L			04/23/24 09:18	1

Client Sample ID: MW-7-240417
Date Collected: 04/17/24 08:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	ND		3.0		mg/L			04/22/24 20:39	1
Sulfate (EPA 300.0)	**6.1**		5.0		mg/L			04/22/24 20:39	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:01	1
Total Alkalinity (SM 2320B)	**140**		10		mg/L			04/26/24 07:21	1
Bicarbonate Alkalinity (SM 2320B)	**140**		10		mg/L			04/26/24 07:21	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:21	1
Total Organic Carbon - Average (SM 5310B)	**1.5**		1.0		mg/L			04/23/24 09:32	1

Client Sample ID: MW-12I-240417
Date Collected: 04/17/24 14:25
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**9.7**		3.0		mg/L			04/22/24 21:13	1
Sulfate (EPA 300.0)	**11**		5.0		mg/L			04/22/24 21:13	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:03	1
Total Alkalinity (SM 2320B)	**130**		10		mg/L			04/26/24 07:27	1
Bicarbonate Alkalinity (SM 2320B)	**130**		10		mg/L			04/26/24 07:27	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:27	1
Total Organic Carbon - Average (SM 5310B)	**1.9**		1.0		mg/L			04/23/24 10:17	1

Client Sample ID: MW-13D-240417
Date Collected: 04/17/24 12:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.5**		3.0		mg/L			04/22/24 21:24	1
Sulfate (EPA 300.0)	**16**		5.0		mg/L			04/22/24 21:24	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:05	1
Total Alkalinity (SM 2320B)	**72**		10		mg/L			04/26/24 07:33	1
Bicarbonate Alkalinity (SM 2320B)	**72**		10		mg/L			04/26/24 07:33	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:33	1
Total Organic Carbon - Average (SM 5310B)	ND		1.0		mg/L			04/23/24 10:33	1

General Chemistry

Client Sample ID: MW-14-240417
Date Collected: 04/17/24 17:05
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.7**		3.0		mg/L			04/22/24 21:35	1
Sulfate (EPA 300.0)	**10**		5.0		mg/L			04/22/24 21:35	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:08	1
Total Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:39	1
Bicarbonate Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:39	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:39	1
Total Organic Carbon - Average (SM 5310B)	**1.3**		1.0		mg/L			04/23/24 11:18	1

Client Sample ID: MW-20DD-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.8**		3.0		mg/L			04/22/24 21:46	1
Sulfate (EPA 300.0)	**10**		5.0		mg/L			04/22/24 21:46	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:10	1
Total Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:45	1
Bicarbonate Alkalinity (SM 2320B)	**100**		10		mg/L			04/26/24 07:45	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:45	1
Total Organic Carbon - Average (SM 5310B)	**1.3**		1.0		mg/L			04/23/24 12:05	1

Client Sample ID: SW-1-240417
Date Collected: 04/17/24 10:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**5.8**		3.0		mg/L			04/23/24 00:58	1
Sulfate (EPA 300.0)	**9.1**		5.0		mg/L			04/23/24 00:58	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:12	1
Total Alkalinity (SM 2320B)	**74**		10		mg/L			04/26/24 07:51	1
Bicarbonate Alkalinity (SM 2320B)	**74**		10		mg/L			04/26/24 07:51	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:51	1
Total Organic Carbon - Average (SM 5310B)	**1.8**		1.0		mg/L			04/23/24 12:22	1

Client Sample ID: SW-4-240417
Date Collected: 04/17/24 11:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**11**		3.0		mg/L			04/23/24 01:10	1
Sulfate (EPA 300.0)	**22**		5.0		mg/L			04/23/24 01:10	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:14	1
Total Alkalinity (SM 2320B)	**140**		10		mg/L			04/26/24 07:58	1
Bicarbonate Alkalinity (SM 2320B)	**140**		10		mg/L			04/26/24 07:58	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 07:58	1
Total Organic Carbon - Average (SM 5310B)	**6.5**		1.0		mg/L			04/23/24 12:38	1

General Chemistry

Client Sample ID: SW-6-240417
Date Collected: 04/17/24 12:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.2**		3.0		mg/L			04/23/24 01:21	1
Sulfate (EPA 300.0)	**6.5**		5.0		mg/L			04/23/24 01:21	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:16	1
Total Alkalinity (SM 2320B)	**56**		10		mg/L			04/26/24 08:04	1
Bicarbonate Alkalinity (SM 2320B)	**56**		10		mg/L			04/26/24 08:04	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 08:04	1
Total Organic Carbon - Average (SM 5310B)	**14**		1.0		mg/L			04/23/24 13:23	1

Client Sample ID: SW-7-240417
Date Collected: 04/17/24 13:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	**4.0**		3.0		mg/L			04/23/24 01:32	1
Sulfate (EPA 300.0)	**9.1**		5.0		mg/L			04/23/24 01:32	1
Ammonia as N (EPA 350.1)	ND		0.030		mg/L			04/25/24 15:29	1
Total Alkalinity (SM 2320B)	**65**		10		mg/L			04/26/24 08:10	1
Bicarbonate Alkalinity (SM 2320B)	**65**		10		mg/L			04/26/24 08:10	1
Carbonate Alkalinity (SM 2320B)	ND		10		mg/L			04/26/24 08:10	1
Total Organic Carbon - Average (SM 5310B)	**7.2**		1.0		mg/L			04/23/24 13:39	1

Surrogate Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)											
		DBFM	TBA										
Lab Sample ID	Client Sample ID	(50-150)	(50-150)										
280-190390-1	MW-5-240417	107	84										
280-190390-2	MW-6-240417	106	81										
280-190390-3	MW-7-240417	110	82										
280-190390-4	MW-12I-240417	111	86										
280-190390-5	MW-13D-240417	110	98										
280-190390-6	MW-14-240417	109	81										
280-190390-7	MW-20DD-240417	111	77										
280-190390-8	SW-1-240417	112	91										
280-190390-9	SW-4-240417	109	84										
280-190390-10	SW-6-240417	111	83										
280-190390-11	SW-7-240417	112	83										
280-190390-12	TB1-240417	111	74										
280-190390-13	TB2-240417	112	93										
LCS 480-709786/6	Lab Control Sample	103	81										
LCSD 480-709786/7	Lab Control Sample Dup	102	83										
MB 480-709786/9	Method Blank	111	83										

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TBA = TBA-d9 (Surr)

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-709786/9
Matrix: Water
Analysis Batch: 709786

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			04/28/24 20:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*111*		*50 - 150*		*04/28/24 20:17*	*1*
TBA-d9 (Surr)	*83*		*50 - 150*		*04/28/24 20:17*	*1*

Lab Sample ID: LCS 480-709786/6
Matrix: Water
Analysis Batch: 709786

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			0.200	0.186		ug/L		93	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*103*		*50 - 150*
TBA-d9 (Surr)	*81*		*50 - 150*

Lab Sample ID: LCSD 480-709786/7
Matrix: Water
Analysis Batch: 709786

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride			0.200	0.188		ug/L		94	50 - 150	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*102*		*50 - 150*
TBA-d9 (Surr)	*83*		*50 - 150*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-650452/1-A
Matrix: Water
Analysis Batch: 650604

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 650452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/22/24 15:56	04/23/24 08:53	1

Lab Sample ID: LCS 280-650452/2-A
Matrix: Water
Analysis Batch: 650604

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 650452

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Manganese			40.0	38.5		ug/L		96	85 - 117		

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 280-650503/1-A
Matrix: Water
Analysis Batch: 650821

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 650503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/23/24 08:11	04/24/24 09:48	1

Lab Sample ID: LCS 280-650503/2-A
Matrix: Water
Analysis Batch: 650708

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 650503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	40.0	41.0		ug/L		102	85 - 117

Lab Sample ID: 280-190398-A-16-B MS
Matrix: Water
Analysis Batch: 650604

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 650452

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	10	F1	40.0	45.9		ug/L		90	89 - 119

Lab Sample ID: 280-190398-A-16-C MSD
Matrix: Water
Analysis Batch: 650604

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 650452

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	10	F1	40.0	44.3	F1	ug/L		86	89 - 119	4	20

Lab Sample ID: 280-190336-D-5-B MS
Matrix: Water
Analysis Batch: 650708

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 650503

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	5.9		40.0	44.8		ug/L		97	89 - 119

Lab Sample ID: 280-190336-D-5-C MSD
Matrix: Water
Analysis Batch: 650708

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 650503

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	5.9		40.0	44.7		ug/L		97	89 - 119	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-650431/50
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			04/22/24 23:05	1
Sulfate	ND		5.0		mg/L			04/22/24 23:05	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-650431/6
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			04/22/24 12:17	1
Sulfate	ND		5.0		mg/L			04/22/24 12:17	1

Lab Sample ID: LCS 280-650431/4
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			100	106		mg/L		106	90 - 110		
Sulfate			100	105		mg/L		105	90 - 110		

Lab Sample ID: LCS 280-650431/48
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			100	109		mg/L		109	90 - 110		
Sulfate			100	106		mg/L		106	90 - 110		

Lab Sample ID: LCSD 280-650431/49
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			100	109		mg/L		109	90 - 110	0	10
Sulfate			100	106		mg/L		106	90 - 110	0	10

Lab Sample ID: LCSD 280-650431/5
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			100	106		mg/L		106	90 - 110	0	10
Sulfate			100	105		mg/L		105	90 - 110	0	10

Lab Sample ID: MRL 280-650431/3
Matrix: Water
Analysis Batch: 650431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			5.00	5.03		mg/L		101	50 - 150		
Sulfate			5.00	4.96	J	mg/L		99	50 - 150		

Lab Sample ID: 280-190390-2 MS
Matrix: Water
Analysis Batch: 650431

Client Sample ID: MW-6-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	4.4		50.0	55.5		mg/L		102	80 - 120		
Sulfate	17		50.0	70.5		mg/L		107	80 - 120		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 280-190390-2 MSD
Matrix: Water
Analysis Batch: 650431

Client Sample ID: MW-6-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4.4		50.0	57.2		mg/L		106	80 - 120	3	20
Sulfate	17		50.0	71.9		mg/L		110	80 - 120	2	20

Lab Sample ID: 280-190390-2 DU
Matrix: Water
Analysis Batch: 650431

Client Sample ID: MW-6-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	4.4		4.40		mg/L		0.07	15
Sulfate	17		16.8		mg/L		0.8	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-651022/108
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.030		mg/L			04/25/24 14:48	1

Lab Sample ID: MB 280-651022/69
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	ND		0.030		mg/L			04/25/24 13:23	1

Lab Sample ID: LCS 280-651022/109
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	2.50	2.55		mg/L		102	90 - 110

Lab Sample ID: LCS 280-651022/70
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	2.50	2.53		mg/L		101	90 - 110

Lab Sample ID: 280-190168-K-1 MS
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	0.72		1.00	1.80		mg/L		108	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 280-190168-K-1 MSD
Matrix: Water
Analysis Batch: 651022

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia as N	0.72		1.00	1.81		mg/L		110	90 - 110	1	10

Lab Sample ID: 280-190390-2 MS
Matrix: Water
Analysis Batch: 651022

Client Sample ID: MW-6-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	ND		1.00	1.06		mg/L		106	90 - 110

Lab Sample ID: 280-190390-2 MSD
Matrix: Water
Analysis Batch: 651022

Client Sample ID: MW-6-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia as N	ND		1.00	1.05		mg/L		105	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-651167/57
Matrix: Water
Analysis Batch: 651167

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	ND		10		mg/L			04/26/24 04:14	1
Bicarbonate Alkalinity	ND		10		mg/L			04/26/24 04:14	1
Carbonate Alkalinity	ND		10		mg/L			04/26/24 04:14	1

Lab Sample ID: LCS 280-651167/56
Matrix: Water
Analysis Batch: 651167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Alkalinity	200	195		mg/L		97	89 - 110

Lab Sample ID: 280-190366-G-11 DU
Matrix: Water
Analysis Batch: 651167

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Alkalinity	630		630		mg/L		0.2	10
Bicarbonate Alkalinity	630		630		mg/L		0.2	20
Carbonate Alkalinity	ND		ND		mg/L		NC	20

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-650670/35
Matrix: Water
Analysis Batch: 650670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0		mg/L			04/23/24 02:37	1

Lab Sample ID: MB 280-650670/68
Matrix: Water
Analysis Batch: 650670

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0		mg/L			04/23/24 11:04	1

Lab Sample ID: LCS 280-650670/34
Matrix: Water
Analysis Batch: 650670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Average			25.0	25.2		mg/L		101	88 - 112		

Lab Sample ID: LCS 280-650670/67
Matrix: Water
Analysis Batch: 650670

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Average			25.0	24.7		mg/L		99	88 - 112		

Lab Sample ID: 280-190390-6 MS
Matrix: Water
Analysis Batch: 650670

Client Sample ID: MW-14-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Average	1.3		25.0	25.5		mg/L		97	88 - 112		

Lab Sample ID: 280-190390-6 MSD
Matrix: Water
Analysis Batch: 650670

Client Sample ID: MW-14-240417
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Average	1.3		25.0	25.9		mg/L		98	88 - 112	2	15

GC/MS VOA

Analysis Batch: 709786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Total/NA	Water	8260C SIM	
280-190390-2	MW-6-240417	Total/NA	Water	8260C SIM	
280-190390-3	MW-7-240417	Total/NA	Water	8260C SIM	
280-190390-4	MW-12I-240417	Total/NA	Water	8260C SIM	
280-190390-5	MW-13D-240417	Total/NA	Water	8260C SIM	
280-190390-6	MW-14-240417	Total/NA	Water	8260C SIM	
280-190390-7	MW-20DD-240417	Total/NA	Water	8260C SIM	
280-190390-8	SW-1-240417	Total/NA	Water	8260C SIM	
280-190390-9	SW-4-240417	Total/NA	Water	8260C SIM	
280-190390-10	SW-6-240417	Total/NA	Water	8260C SIM	
280-190390-11	SW-7-240417	Total/NA	Water	8260C SIM	
280-190390-12	TB1-240417	Total/NA	Water	8260C SIM	
280-190390-13	TB2-240417	Total/NA	Water	8260C SIM	
MB 480-709786/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-709786/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-709786/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Metals

Prep Batch: 650452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Dissolved	Water	3005A	
280-190390-2	MW-6-240417	Dissolved	Water	3005A	
280-190390-3	MW-7-240417	Dissolved	Water	3005A	
280-190390-4	MW-12I-240417	Dissolved	Water	3005A	
MB 280-650452/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-650452/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-190398-A-16-B MS	Matrix Spike	Dissolved	Water	3005A	
280-190398-A-16-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 650503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-5	MW-13D-240417	Dissolved	Water	3005A	
280-190390-6	MW-14-240417	Dissolved	Water	3005A	
280-190390-7	MW-20DD-240417	Dissolved	Water	3005A	
280-190390-8	SW-1-240417	Dissolved	Water	3005A	
280-190390-9	SW-4-240417	Dissolved	Water	3005A	
280-190390-10	SW-6-240417	Dissolved	Water	3005A	
280-190390-11	SW-7-240417	Dissolved	Water	3005A	
MB 280-650503/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-650503/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-190336-D-5-B MS	Matrix Spike	Dissolved	Water	3005A	
280-190336-D-5-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 650604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Dissolved	Water	6020B	650452
280-190390-2	MW-6-240417	Dissolved	Water	6020B	650452
280-190390-3	MW-7-240417	Dissolved	Water	6020B	650452
280-190390-4	MW-12I-240417	Dissolved	Water	6020B	650452
MB 280-650452/1-A	Method Blank	Total Recoverable	Water	6020B	650452

Metals (Continued)

Analysis Batch: 650604 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-650452/2-A	Lab Control Sample	Total Recoverable	Water	6020B	650452
280-190398-A-16-B MS	Matrix Spike	Dissolved	Water	6020B	650452
280-190398-A-16-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	650452

Analysis Batch: 650708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-5	MW-13D-240417	Dissolved	Water	6020B	650503
280-190390-6	MW-14-240417	Dissolved	Water	6020B	650503
280-190390-7	MW-20DD-240417	Dissolved	Water	6020B	650503
280-190390-8	SW-1-240417	Dissolved	Water	6020B	650503
280-190390-9	SW-4-240417	Dissolved	Water	6020B	650503
280-190390-10	SW-6-240417	Dissolved	Water	6020B	650503
280-190390-11	SW-7-240417	Dissolved	Water	6020B	650503
LCS 280-650503/2-A	Lab Control Sample	Total Recoverable	Water	6020B	650503
280-190336-D-5-B MS	Matrix Spike	Dissolved	Water	6020B	650503
280-190336-D-5-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020B	650503

Analysis Batch: 650821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-650503/1-A	Method Blank	Total Recoverable	Water	6020B	650503

General Chemistry

Analysis Batch: 650431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Total/NA	Water	300.0	
280-190390-2	MW-6-240417	Total/NA	Water	300.0	
280-190390-3	MW-7-240417	Total/NA	Water	300.0	
280-190390-4	MW-12I-240417	Total/NA	Water	300.0	
280-190390-5	MW-13D-240417	Total/NA	Water	300.0	
280-190390-6	MW-14-240417	Total/NA	Water	300.0	
280-190390-7	MW-20DD-240417	Total/NA	Water	300.0	
280-190390-8	SW-1-240417	Total/NA	Water	300.0	
280-190390-9	SW-4-240417	Total/NA	Water	300.0	
280-190390-10	SW-6-240417	Total/NA	Water	300.0	
280-190390-11	SW-7-240417	Total/NA	Water	300.0	
MB 280-650431/50	Method Blank	Total/NA	Water	300.0	
MB 280-650431/6	Method Blank	Total/NA	Water	300.0	
LCS 280-650431/4	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-650431/48	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-650431/49	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-650431/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-650431/3	Lab Control Sample	Total/NA	Water	300.0	
280-190390-2 MS	MW-6-240417	Total/NA	Water	300.0	
280-190390-2 MSD	MW-6-240417	Total/NA	Water	300.0	
280-190390-2 DU	MW-6-240417	Total/NA	Water	300.0	

Analysis Batch: 650670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Total/NA	Water	SM 5310B	
280-190390-2	MW-6-240417	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 650670 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-3	MW-7-240417	Total/NA	Water	SM 5310B	
280-190390-4	MW-12I-240417	Total/NA	Water	SM 5310B	
280-190390-5	MW-13D-240417	Total/NA	Water	SM 5310B	
280-190390-6	MW-14-240417	Total/NA	Water	SM 5310B	
280-190390-7	MW-20DD-240417	Total/NA	Water	SM 5310B	
280-190390-8	SW-1-240417	Total/NA	Water	SM 5310B	
280-190390-9	SW-4-240417	Total/NA	Water	SM 5310B	
280-190390-10	SW-6-240417	Total/NA	Water	SM 5310B	
280-190390-11	SW-7-240417	Total/NA	Water	SM 5310B	
MB 280-650670/35	Method Blank	Total/NA	Water	SM 5310B	
MB 280-650670/68	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-650670/34	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 280-650670/67	Lab Control Sample	Total/NA	Water	SM 5310B	
280-190390-6 MS	MW-14-240417	Total/NA	Water	SM 5310B	
280-190390-6 MSD	MW-14-240417	Total/NA	Water	SM 5310B	

Analysis Batch: 651022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Total/NA	Water	350.1	
280-190390-2	MW-6-240417	Total/NA	Water	350.1	
280-190390-3	MW-7-240417	Total/NA	Water	350.1	
280-190390-4	MW-12I-240417	Total/NA	Water	350.1	
280-190390-5	MW-13D-240417	Total/NA	Water	350.1	
280-190390-6	MW-14-240417	Total/NA	Water	350.1	
280-190390-7	MW-20DD-240417	Total/NA	Water	350.1	
280-190390-8	SW-1-240417	Total/NA	Water	350.1	
280-190390-9	SW-4-240417	Total/NA	Water	350.1	
280-190390-10	SW-6-240417	Total/NA	Water	350.1	
280-190390-11	SW-7-240417	Total/NA	Water	350.1	
MB 280-651022/108	Method Blank	Total/NA	Water	350.1	
MB 280-651022/69	Method Blank	Total/NA	Water	350.1	
LCS 280-651022/109	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-651022/70	Lab Control Sample	Total/NA	Water	350.1	
280-190168-K-1 MS	Matrix Spike	Total/NA	Water	350.1	
280-190168-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
280-190390-2 MS	MW-6-240417	Total/NA	Water	350.1	
280-190390-2 MSD	MW-6-240417	Total/NA	Water	350.1	

Analysis Batch: 651167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-190390-1	MW-5-240417	Total/NA	Water	SM 2320B	
280-190390-2	MW-6-240417	Total/NA	Water	SM 2320B	
280-190390-3	MW-7-240417	Total/NA	Water	SM 2320B	
280-190390-4	MW-12I-240417	Total/NA	Water	SM 2320B	
280-190390-5	MW-13D-240417	Total/NA	Water	SM 2320B	
280-190390-6	MW-14-240417	Total/NA	Water	SM 2320B	
280-190390-7	MW-20DD-240417	Total/NA	Water	SM 2320B	
280-190390-8	SW-1-240417	Total/NA	Water	SM 2320B	
280-190390-9	SW-4-240417	Total/NA	Water	SM 2320B	
280-190390-10	SW-6-240417	Total/NA	Water	SM 2320B	
280-190390-11	SW-7-240417	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 651167 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-651167/57	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-651167/56	Lab Control Sample	Total/NA	Water	SM 2320B	
280-190366-G-11 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Client Sample ID: MW-5-240417
Date Collected: 04/17/24 10:12
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 20:40	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650452	04/22/24 15:56	AES	EET DEN
Dissolved	Analysis	6020B		1			650604	04/23/24 10:26	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 19:42	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 14:46	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 06:56	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 09:04	ABW	EET DEN

Client Sample ID: MW-6-240417
Date Collected: 04/17/24 15:45
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 21:04	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650452	04/22/24 15:56	AES	EET DEN
Dissolved	Analysis	6020B		1			650604	04/23/24 10:29	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 19:54	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 14:54	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:15	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 09:18	ABW	EET DEN

Client Sample ID: MW-7-240417
Date Collected: 04/17/24 08:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 21:32	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650452	04/22/24 15:56	AES	EET DEN
Dissolved	Analysis	6020B		1			650604	04/23/24 10:33	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 20:39	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:01	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:21	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 09:32	ABW	EET DEN

Client Sample ID: MW-12I-240417
Date Collected: 04/17/24 14:25
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 21:55	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650452	04/22/24 15:56	AES	EET DEN
Dissolved	Analysis	6020B		1			650604	04/23/24 10:36	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 21:13	EJS	EET DEN

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Client Sample ID: MW-12I-240417
Date Collected: 04/17/24 14:25
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:03	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:27	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 10:17	ABW	EET DEN

Client Sample ID: MW-13D-240417
Date Collected: 04/17/24 12:40
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 22:18	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 21:54	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 21:24	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:05	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:33	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 10:33	ABW	EET DEN

Client Sample ID: MW-14-240417
Date Collected: 04/17/24 17:05
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 22:41	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 21:57	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 21:35	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:08	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:39	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 11:18	ABW	EET DEN

Client Sample ID: MW-20DD-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 23:03	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 22:01	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/22/24 21:46	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:10	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:45	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 12:05	ABW	EET DEN

Client Sample ID: SW-1-240417

Lab Sample ID: 280-190390-8

Date Collected: 04/17/24 10:45

Matrix: Water

Date Received: 04/19/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 23:26	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 22:04	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/23/24 00:58	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:12	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:51	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 12:22	ABW	EET DEN

Client Sample ID: SW-4-240417

Lab Sample ID: 280-190390-9

Date Collected: 04/17/24 11:40

Matrix: Water

Date Received: 04/19/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/28/24 23:49	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 22:08	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/23/24 01:10	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:14	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 07:58	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 12:38	ABW	EET DEN

Client Sample ID: SW-6-240417

Lab Sample ID: 280-190390-10

Date Collected: 04/17/24 12:35

Matrix: Water

Date Received: 04/19/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/29/24 00:12	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 22:11	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/23/24 01:21	EJS	EET DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:16	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 08:04	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 13:23	ABW	EET DEN

Client Sample ID: SW-7-240417

Lab Sample ID: 280-190390-11

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/19/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/29/24 00:34	CDC	EET BUF
Dissolved	Prep	3005A			50 mL	50 mL	650503	04/23/24 08:11	AMH	EET DEN
Dissolved	Analysis	6020B		1			650708	04/23/24 22:15	LMT	EET DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	650431	04/23/24 01:32	EJS	EET DEN

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-190390-1

Client Sample ID: SW-7-240417
Date Collected: 04/17/24 13:35
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	651022	04/25/24 15:29	LBR	EET DEN
Total/NA	Analysis	SM 2320B		1			651167	04/26/24 08:10	LL	EET DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	650670	04/23/24 13:39	ABW	EET DEN

Client Sample ID: TB1-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/29/24 00:57	CDC	EET BUF

Client Sample ID: TB2-240417
Date Collected: 04/17/24 07:00
Date Received: 04/19/24 09:20

Lab Sample ID: 280-190390-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	709786	04/29/24 01:20	CDC	EET BUF

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

27 April 2024

Janice Collins
Eurofins - Test America - Denver
4955 Yarrow Street
Arvada, CO 80002

RE: Hansville Landfill (228006013)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
24D0421	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Shelly Fishel, Project Manager

Cert# 100006-012

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

24D0421

Chain of Custody Record

eurofins | Environment Testing

ARI

Client Information	Sampler: Tanner + Carmen	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-125973-19522.1
Client Contact: Peter Bannister	Phone: 404-210-6437	E-Mail: Janice.Collins@et.eurofinsus.com	State of Origin:	Page:
Company: Aspect Consulting, LLC	PWSID:			Job #:
Address: 350 Madison Ave N	Due Date Requested:			
City: Bainbridge Island	TAT Requested (days):			
State, Zip: WA, 98110	Compliance Project: Δ Yes Δ No			
Phone: 404-210-6437	PO #: Purchase Order not required			
Email: Peter.Bannister@aspectconsulting.com	WO #:			
Project Name: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q_3Q_4Q Sampling			
Site: Washington	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alks/Cl/SO4	6020 - Dissolved Metals (field filtered)	Ammonia/TOC	8260C SIM - Vinyl Chloride (Buffalo)		Ortho-phosphate (field filtered) - Direct sub to ARI	Dissolved Arsenic (Direct sub to ARI)	Nitrate/Nitrite (IC) - Direct sub to ARI						Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A		N	D	N							
MW-5-240417	04/17/24	1012	G	W								X	X	X							Diss As,NO3,NO2,o-phos subbed direct to ARI
MW-6-240417		1545																			
MW-7-240417		0840																			
MW-12I-240417		1425																			
MW-13D-240417		1240																			
MW-14-240417		1709																			
MW-20AD-240417		0700																			
SW-1-240417		1045																			
SW-4-240417		1140																			
SW-6-240417		1235																			
SW-7-240417	↓	1335	↓	↓								↓	↓	↓							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	04/18/2024 / 1100	Aspect		4/18/24 1137	ARI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Page 33 of 83

4/30/2024

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5-240417	24D0421-01	Water	17-Apr-2024 10:12	18-Apr-2024 11:37
MW-6-240417	24D0421-02	Water	17-Apr-2024 15:45	18-Apr-2024 11:37
MW-7-240417	24D0421-03	Water	17-Apr-2024 08:40	18-Apr-2024 11:37
MW-12I-240417	24D0421-04	Water	17-Apr-2024 14:25	18-Apr-2024 11:37
MW-13D-240417	24D0421-05	Water	17-Apr-2024 12:40	18-Apr-2024 11:37
MW-14-240417	24D0421-06	Water	17-Apr-2024 17:05	18-Apr-2024 11:37
MW-20DD-240417	24D0421-07	Water	17-Apr-2024 07:00	18-Apr-2024 11:37
SW-1-240417	24D0421-08	Water	17-Apr-2024 10:45	18-Apr-2024 11:37
SW-4-240417	24D0421-09	Water	17-Apr-2024 11:40	18-Apr-2024 11:37
SW-6-240417	24D0421-10	Water	17-Apr-2024 12:35	18-Apr-2024 11:37
SW-7-240417	24D0421-11	Water	17-Apr-2024 13:35	18-Apr-2024 11:37

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Work Order Case Narrative

Client: Eurofins - Test America - Denver
Project: Hansville Landfill
Project Number: 228006013
Work Order: 24D0421

Sample receipt

Samples as listed on the preceding page were received 18-Apr-2024 11:37 under ARI work order 24D0421. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Dissolved Metals - EPA Method 200.8

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations including interference checks were within method requirements for reported elements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

WORK ORDER

24D0421

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Eurofins - Test America - Denver **Project Manager:** Shelly Fishel

Project: Hansville Landfill **Project Number:** 28006013-2Q_3Q_4Q Sampling

Preservation Confirmation

Container ID	Container Type	pH	
24D0421-01 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-01 B	HDPE NM, 500 mL		
24D0421-01 C	HDPE NM, 500 mL (FF)		
24D0421-02 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-02 B	HDPE NM, 500 mL		
24D0421-02 C	HDPE NM, 500 mL (FF)		
24D0421-03 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-03 B	HDPE NM, 500 mL		
24D0421-03 C	HDPE NM, 500 mL (FF)		
24D0421-04 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-04 B	HDPE NM, 500 mL		
24D0421-04 C	HDPE NM, 500 mL (FF)		
24D0421-05 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-05 B	HDPE NM, 500 mL		
24D0421-05 C	HDPE NM, 500 mL (FF)		
24D0421-06 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-06 B	HDPE NM, 500 mL		
24D0421-06 C	HDPE NM, 500 mL (FF)		
24D0421-07 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-07 B	HDPE NM, 500 mL		
24D0421-07 C	HDPE NM, 500 mL (FF)		
24D0421-08 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-08 B	HDPE NM, 500 mL		
24D0421-08 C	HDPE NM, 500 mL (FF)		
24D0421-09 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-09 B	HDPE NM, 500 mL		
24D0421-09 C	HDPE NM, 500 mL (FF)		
24D0421-10 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-10 B	HDPE NM, 500 mL		
24D0421-10 C	HDPE NM, 500 mL (FF)		
24D0421-11 A	HDPE NM, 500 mL, 1:1 HNO3 (FF)	<2	P
24D0421-11 B	HDPE NM, 500 mL		
24D0421-11 C	HDPE NM, 500 mL (FF)		

Reviewed By

Date

WORK ORDER

24D0421

Samples will be discarded 90 days after submission of a final report unless other instructions are received

Client: Eurofins - Test America - Denver

Project Manager: Shelly Fishel

Project: Hansville Landfill

Project Number: 28006013-2Q_3Q_4Q Sampling

Preservation Confirmed By

4/18/24
Date

Reviewed By

Date

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: ASPECT

Project Name: Hanville Landfill

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 24D0421

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1137 0.5° ___ ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 9708

Cooler Accepted by: _____ Date: 4/18/24 Time: 1137

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI... NA _____

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: _____ Date: 4/18/24 Time: 1210 Labels checked by: _____

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-5-240417
24D0421-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 10:12
Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:39

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-01 A 01
Preparation Batch: BMD0621 — Sample Size: 25 mL
Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.69	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-5-240417

24D0421-01 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 10:12

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 20:23

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-01 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	3.13	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-5-240417

24D0421-01 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 10:12

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:36

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-01 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0390	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-6-240417

24D0421-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 15:45

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:38

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-02 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.95	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-6-240417

24D0421-02 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 15:45

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 21:23

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-02 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.329	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-6-240417

24D0421-02 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 15:45

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:43

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-02 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0350	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-7-240417

24D0421-03 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 08:40

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:36

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-03 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.37	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-7-240417

24D0421-03 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 08:40

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 22:24

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-03 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.557	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-7-240417

24D0421-03 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 08:40

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:44

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-03 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0520	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-12I-240417

24D0421-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 14:25

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:58

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-04 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	2.57	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-12I-240417

24D0421-04 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 14:25

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 22:44

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-04 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-12I-240417

24D0421-04 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 14:25

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:45

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-04 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0480	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-13D-240417

24D0421-05 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 12:40

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:08

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-05 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	2	0.0746	0.400	4.95	ug/L	D

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-13D-240417

24D0421-05 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 12:40

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 23:04

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-05 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-13D-240417

24D0421-05 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 12:40

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:45

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-05 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0840	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-14-240417

24D0421-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 17:05

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:05

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-06 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	10	0.373	2.00	11.8	ug/L	D

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-14-240417

24D0421-06 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 17:05

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 23:24

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-06 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-14-240417

24D0421-06 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 17:05

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:48

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-06 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.122	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-20DD-240417

24D0421-07 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 07:00

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:06

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-07 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	10	0.373	2.00	11.9	ug/L	D

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-20DD-240417

24D0421-07 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 07:00

Instrument: IC930 Analyst: EJK — Analyzed: 04/18/2024 23:44

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-07 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

MW-20DD-240417

24D0421-07 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 07:00

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:50

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-07 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.123	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-1-240417

24D0421-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 10:45

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 18:00

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-08 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.51	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-1-240417

24D0421-08 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 10:45

Instrument: IC930 Analyst: EJK — Analyzed: 04/19/2024 00:04

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-08 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	1.55	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-1-240417

24D0421-08 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 10:45

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:51

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-08 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0280	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-4-240417

24D0421-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 11:40

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 18:01

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-09 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.62	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-4-240417

24D0421-09 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 11:40

Instrument: IC930 Analyst: EJK — Analyzed: 04/19/2024 00:24

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-09 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.781	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-4-240417

24D0421-09 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 11:40

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:51

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-09 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0200	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-6-240417

24D0421-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 12:35

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 17:09

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-10 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	2	0.0746	0.400	2.55	ug/L	D

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-6-240417

24D0421-10 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 12:35

Instrument: IC930 Analyst: EJK — Analyzed: 04/19/2024 00:44

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-10 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	ND	mg/L	U

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-6-240417

24D0421-10 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 12:35

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:52

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-10 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0280	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-7-240417

24D0421-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/17/2024 13:35

Instrument: ICPMS2 Analyst: DOE — Analyzed: 04/25/2024 18:02

Sample Preparation: Preparation Method: REN - EPA 3010A M — Extract ID: 24D0421-11 A 01

Preparation Batch: BMD0621 — Sample Size: 25 mL

Prepared: 04/23/2024 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0373	0.200	1.47	ug/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-7-240417

24D0421-11 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/17/2024 13:35

Instrument: IC930 Analyst: EJK — Analyzed: 04/19/2024 01:04

Sample Preparation: Preparation Method: No Prep - Volatiles; Preparation Batch: BMD0510; Prepared: 04/18/2024; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 24D0421-11 B

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.610	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

SW-7-240417

24D0421-11 (Water)

Wet Chemistry

Method: SM 4500-P E-11 — Sampled: 04/17/2024 13:35

Instrument: UV1800-2 Analyst: SRB — Analyzed: 04/18/2024 17:53

Sample Preparation: Preparation Method: SM 4500-P B-1 SRP — Extract ID: 24D0421-11 C

Preparation Batch: BMD0509 — Sample Size: 50 mL

Prepared: 04/18/2024 — Final Volume: 50 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.0040	0.0040	0.0550	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BMD0621 - EPA 200.8 UCT-KED

Instrument: ICPMS2 Analyst: DOE

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMD0621-BLK1)					Prepared: 23-Apr-2024 Analyzed: 25-Apr-2024 17:01							
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BMD0621-BS1)					Prepared: 23-Apr-2024 Analyzed: 25-Apr-2024 17:04							
Arsenic, Dissolved	75a	26.4	0.0373	0.200	ug/L	25.0		105	80-120			
Duplicate (BMD0621-DUP1)			**Source: 24D0421-01**		Prepared: 23-Apr-2024 Analyzed: 25-Apr-2024 17:40							
Arsenic, Dissolved	75a	1.60	0.0373	0.200	ug/L		1.69			5.67	20	
Matrix Spike (BMD0621-MS1)			**Source: 24D0421-01**		Prepared: 23-Apr-2024 Analyzed: 25-Apr-2024 17:42							
Arsenic, Dissolved	75a	27.6	0.0373	0.200	ug/L	25.0	1.69	104	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BMD0509 - SM 4500-P E-11

Instrument: UV1800-2 Analyst: SRB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMD0509-BLK1)				Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 17:34							
Orthophosphorus	ND	0.0040	0.0040	mg-P/L							U
LCS (BMD0509-BS1)				Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 17:35							
Orthophosphorus	0.152	0.0040	0.0040	mg-P/L	0.150		101	90-110			
Duplicate (BMD0509-DUP1)		**Source: 24D0421-01**		Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 17:36							
Orthophosphorus	0.0400	0.0040	0.0040	mg-P/L		0.0390			2.53	20	
Matrix Spike (BMD0509-MS1)		**Source: 24D0421-01**		Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 17:43							
Orthophosphorus	0.138	0.0040	0.0040	mg-P/L	0.101	0.0390	98.5	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BMD0510 - EPA 300.0

Instrument: IC930 Analyst: EJK

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BMD0510-BLK1)				Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 19:43							
Nitrate-N	ND	0.100	0.100	mg/L							U
Nitrite-N	ND	0.100	0.100	mg/L							U
LCS (BMD0510-BS1)				Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 20:03							
Nitrate-N	5.12	0.100	0.100	mg/L	5.00		102	90-110			
Nitrite-N	5.11	0.100	0.100	mg/L	5.00		102	90-110			
Duplicate (BMD0510-DUP1)		**Source: 24D0421-01**		Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 20:43							
Nitrate-N	3.11	0.100	0.100	mg/L		3.13			0.80	20	
Nitrite-N	ND	0.100	0.100	mg/L		ND					U
Matrix Spike (BMD0510-MS1)		**Source: 24D0421-01**		Prepared: 18-Apr-2024 Analyzed: 18-Apr-2024 21:03							
Nitrate-N	5.27	0.100	0.100	mg/L	2.00	3.13	107	75-125			
Nitrite-N	1.72	0.100	0.100	mg/L	2.00	ND	86.0	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 UCT-KED in Water	
Arsenic-75a	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 300.0 in Water	
Nitrate-N	DoD-ELAP,WADOE,WA-DW,NELAP
Nitrite-N	DoD-ELAP,WADOE,WA-DW,NELAP
SM 4500-P E-11 in Water	
Orthophosphorus	WADOE,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2025
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program, PJLA Testing	66169	02/28/2025
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2024
WADOE	WA Dept of Ecology	C558	06/30/2024
WA-DW	Ecology - Drinking Water	C558	06/30/2024

Eurofins - Test America - Denver	Project: Hansville Landfill	
4955 Yarrow Street	Project Number: 228006013	**Reported:**
Arvada CO, 80002	Project Manager: Janice Collins	27-Apr-2024 12:44

Notes and Definitions

D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing

TA

Client Information	Sampler: Carmen + Favour	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-125973-19522.1
Client Contact: Peter Bannister	Phone: 404-210-6437	E-Mail: Janice.Collins@et.eurofinsus.com	State of Origin:	Page:
Company: Aspect Consulting, LLC	PWSID:			Job #:

Address: 350 Madison Ave N	Due Date Requested:	Analysis Requested
City: Bainbridge Island	TAT Requested (days):	
State, Zip: WA, 98110	Compliance Project: Δ Yes Δ No	
Phone: 404-210-6437	PO #: Purchase Order not required	
Email: Peter.Bannister@aspectconsulting.com	WO #:	
Project Name: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q_3Q_4Q Sampling	
Site: Washington	SSOW#:	

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Carmen.Tapparo@aspectconsulting.com

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alks/Cl/SO4	6020 - Dissolved Metals (field filtered)	Ammonia/TOC	8260C SIM - Vinyl Chloride (Buffalo)		Ortho-phosphate (field filtered) - Direct sub to ARI	Dissolved Arsenic (Direct sub to ARI)	Nitrate/Nitrite (IC) - Direct sub to ARI						Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A		N	D	N							
MW-5-240417	04/17/24	1012	G	W			X	X	X	X											Diss As,NO3,NO2,o-phos subbed direct to ARI
MW-6-240417		1545																			
MW-7-240417		0840																			
MW-12I-240417		1425																			
MW-13D-240417		1240																			
MW-14-240417		1705																			
MW-20D-240417		0700																			
SW-1-240417		1045																			
SW-4-240417		1140																			
SW-6-240417		1235																			
SW-7-240417		1335																			

280-190390 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	04/18/24 1100	Aspect		04/19/24 0920	FEDEX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.3, 0.9, 0.4.1, IR14

Ver: 01/16/2019

4/30/2024

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing

TA C

Client Information	Sampler: Carmen + Favour	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-125973-19522.1
Client Contact: Peter Bannister	Phone: 404-210-6437	E-Mail: Janice.Collins@et.eurofinsus.com	State of Origin:	Page:
Company: Aspect Consulting, LLC	PWSID:			Job #:

Address: 350 Madison Ave N	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Bainbridge Island	TAT Requested (days):		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
State, Zip: WA, 98110	Compliance Project: Δ Yes Δ No		
Phone: 404-210-6437	PO #: Purchase Order not required		Other:
Email: Peter.Bannister@aspectconsulting.com	WO #:		
Project Name: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q_3Q_4Q Sampling		
Site: Washington	SSOW#:		

Carmen.Tapper@aspectconsulting.com

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Alks/Cl/SO4	6020 - Dissolved Metals (field filtered)	Ammonia/TOC	8260C SIM - Vinyl Chloride (Buffalo)		Ortho-phosphate (field filtered) - Direct sub to ARI	Dissolved Arsenic (Direct sub to ARI)	Nitrate/Nitrite (IC) - Direct sub to ARI						Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	S	A		N	D	N							
TB1 - 240417	-	-		AQ						X											Diss As,NO3,NO2,o-phos subbed direct to ARI
TB2 - 240417	-	-		AQ						X											

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	04/15/24 / 1100	Aspect		04/19/24 0920	EGR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

4/30/2024

280-190390 Waybill

ORIGIN ID:BFIA

SHIP DATE: 18APR24
ACTWGT: 47.40 LB
CAD: /SSFE2500
DIMS: 24x14x14 IN

Part # 1562

EXP 06/24

TO SAMPLE RECEIVING
EUROFINS ENVIRON TESTING
4955 YARROW ST

ARVADA CO 80002-4517 (US)
(303) 736-0100 REF:
INV:
PO: DEPT:

FedEx Express

E

J242024032602uv

FRI - 19 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0667 8182 2608 3289

XA LAAA 2376714 CO-US 80002 DEN

FedEx Express

Expanded Billable Stamp

Use only for shipments within the U.S. Saturday delivery available.

FedEx Priority Overnight®

Next business morning by 10:30 a.m. Not available to all locations. Please consult the current FedEx Service Guide for specific commitments.

1 From *See optional release signature below.*

ORDER: 00872510

DECLARED VALUE $100
PACKAGE WEIGHT

NONREDEEMABLE
Please see back for declared value information and important terms and conditions.

2 To *Shipment will not be accepted if address below is altered.*

SAMPLE RECEIVING
EUROFINS ENVIRON TESTING
4955 YARROW STREET
DENVER
ARVADA CO 80002
(303) 736-0100

2376719

SATURDAY DELIVERY
Shipments tendered on Friday are delivered on Saturday to most locations.

REF:

8182 2608 3278

Release Signature
For nonresidential deliveries.

Sign with this area. Never do not create.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

For FedEx Use Only	
Employee Number	Base Charges
Other	Total Charges

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fedex.com 1.800.GoFedEx 1.800.463.3339 M-10091 Rev. 3/22 Form ID 0667

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-699292.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Janice.Collins@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 2
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State Program - Washington		Job #: 280-190390-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 5/2/2024			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: 28006013			
Site: Hansville	SSOW#:			

Analysis Requested

Preservation Codes:
-

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-5-240417 (280-190390-1)	4/17/24	10:12 Pacific		Water			X	3	
MW-6-240417 (280-190390-2)	4/17/24	15:45 Pacific		Water			X	3	
MW-7-240417 (280-190390-3)	4/17/24	08:40 Pacific		Water			X	3	
MW-12I-240417 (280-190390-4)	4/17/24	14:25 Pacific		Water			X	3	
MW-13D-240417 (280-190390-5)	4/17/24	12:40 Pacific		Water			X	3	
MW-14-240417 (280-190390-6)	4/17/24	17:05 Pacific		Water			X	3	
MW-20DD-240417 (280-190390-7)	4/17/24	07:00 Pacific		Water			X	3	
SW-1-240417 (280-190390-8)	4/17/24	10:45 Pacific		Water			X	3	
SW-4-240417 (280-190390-9)	4/17/24	11:40 Pacific		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 4/24/24 1530	Company EETDEN	Received by:	Date/Time: 04/25/24 1030	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.7# ice

Ver: 06/08/2021

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-699292.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Janice.Collins@et.eurofinsus.com	State of Origin: Washington	Page: Page 2 of 2
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State Program - Washington		Job #: 280-190390-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 5/2/2024			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Hansville Landfill	Project #: 28006013			
Site: Hansville	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C_SIM/5030C (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SW-6-240417 (280-190390-10)	4/17/24	12:35 Pacific		Water			X	3	
SW-7-240417 (280-190390-11)	4/17/24	13:35 Pacific		Water			X	3	
TB1-240417 (280-190390-12)	4/17/24	07:00 Pacific		Water			X	3	
TB2-240417 (280-190390-13)	4/17/24	07:00 Pacific		Water			X	3	

Preservation Codes: -

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 4/24/24 1530	Company: EEDEN	Received by:	Date/Time: 04/25/24 1050	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Aspect Consulting

Job Number: 280-190390-1

Login Number: 190390
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Aspect Consulting

Job Number: 280-190390-1

Login Number: 190390
List Number: 2
Creator: Kolb, Chris M

List Source: Eurofins Buffalo
List Creation: 04/26/24 12:57 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.7 ir gun #1 ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	