November 28, 2022

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

Re: Third Quarter 2022 Environmental Monitoring Report
Hansville Landfill, Kitsap County, Washington
Project No. 160423-005-05.1

Dear Alexis:

This quarterly report summarizes the results of environmental monitoring conducted at the Hansville Landfill (Site) during the third quarter of 2022, and was prepared by Aspect Consulting, LLC (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 data sets 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.

Conditions monitored at the Site during the third quarter of 2022 were consistent with historical trends showing improvements in protection of human health and the environment. This report is organized consistent with quarterly reporting topics listed in the Compliance Monitoring Plan, and includes:

- 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 – Third Quarter 2022

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 third quarter 2022 is provided below:

- On July 20, 2022, Aspect completed groundwater and surface water sampling in accordance with the Compliance Monitoring Plan. Aspect conducted monthly performance monitoring of the blower system and condensate management system.
- On August 18, 2022, Aspect conducted monthly performance monitoring of the blower system and condensate management system.
- On September 15 and 16, 2022, Aspect conducted landfill gas monitoring in accordance with the Compliance Monitoring Plan and inspected the blower system for proper operation. Aspect monitored landfill gas concentrations at the blower, extraction wells, and at compliance monitoring probes. Extraction well flow rates were adjusted to ensure capture of landfill gasses, as necessary.
- On October 12, 2022, Kitsap County crews pumped out the condensate tank; Aspect was not on the Site to observe the work.

Deviations from the Compliance Monitoring Plan

There were no deviations from the Compliance Monitoring Plan during the third quarter 2022 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 July 20 and August 18, 2022. Aspect monitored landfill gas concentrations at the blower, extraction wells, and compliance monitoring probes on September 15 and 16, 2022.

Landfill gas concentrations were measured with a calibrated GEM-5000 multi-gas 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.
- Collection system pressure measurements included the static pressure measured before and after any valve adjustments or purging, reported as "initial" and "adjusted," respectively.
- Collection system flow-rate measurements were obtained at all 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, reported as "adjusted."

Landfill Gas System Performance

During the compliance monitoring event on September 15 and 16, 2022, observed conditions remained within the normal range. Methane and carbon dioxide concentrations at the blower inlet were approximately 3.5 percent by volume and 15.6 percent by volume, respectively. The oxygen concentration was approximately 2.2 percent by volume. Flow rates were approximately 78.7 standard cubic feet per minute (scfm) during the third quarter. Wellfield optimization will continue to focus on maximizing methane and carbon dioxide collection rates.

During the September 2022 event, the 2,000-gallon condensate storage tank contained approximately 775 gallons. On October 13, 2022, Aspect was notified that on October 12, 2022, a crew from Kitsap County Public Works removed condensate from the 2,000-gallon condensate storage tank inside the flare compound. Approximately 1,300 gallons were removed from the condensate storage tank. The condensate recovery system operated successfully throughout the third quarter 2022 and showed lower volume recovery compared to the second quarter, consistent with historical seasonal trends.

Explosive Gas Control

Methane was not detected in any of the compliance gas probes during the compliance monitoring event on September 15 and 16, 2022. 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 3.4 percent by volume, reflecting natural conditions.

Summary of Groundwater and Surface Water Conditions

This section addresses groundwater and surface water conditions based on the monitoring event on July 20, 2022. Samples were collected from six groundwater monitoring wells and from four surface water monitoring locations (see Figure B-1) for laboratory analysis.

Groundwater Flow

Groundwater flow conditions during the third quarter of 2022 were consistent with those observed during previous monitoring events. Groundwater surface elevations were calculated using water

levels measured July 20, 2022 (see Table B-1). Groundwater elevations ranged from 237.8 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 generally west across the landfill then shifts southwest with increased distance from the landfill; this is consistent with historical observations. Groundwater gradients ranged from 0.0069 feet over feet (feet/feet) in the upgradient areas at the landfill, 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 third quarter of 2022 are presented in Table B-2, including 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 (0.0134 mg/L) and MW-13D (0.005 mg/L). Dissolved manganese concentrations were below the Site-specific cleanup level of 2.24 mg/L. 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 (0.042 µg/L), MW-12I (0.045 µg/L), and MW-14 (0.033 µg/L); consistent with historical results.

Surface water quality results from the third quarter 2022 are presented in Table B-3, including field parameters, conventional parameters, dissolved metals, and volatile organic compounds. During the reporting period, dissolved arsenic concentrations in surface water were below the Site-specific cleanup level of 0.005 mg/L at all monitoring locations. Dissolved manganese concentrations in surface water were below the Site-specific cleanup level of 2.24 mg/L. Vinyl chloride concentrations in surface water were not detected at a reporting limit below the Site-specific cleanup level of 0.025 µg/L.

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 been less than the cleanup level of 0.005 mg/L at MW-5 (background well), MW-6, MW-7, and MW-12I. Historically, dissolved arsenic concentrations at MW-13D were below the cleanup level and appear to have stabilized near the cleanup level since about 2019. Dissolved arsenic concentrations at MW-14 remain consistent with historical decreasing trends.

Figure C-2 shows vinyl chloride concentrations in groundwater have been less than the 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. The vinyl chloride concentration at MW-6 and MW-12I increased slightly during the third quarter of 2022 compared with the second quarter of 2022 but is within a range that is consistent with an overall 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 1 to 10 years. In the event that the slowly increasing trend for dissolved arsenic

at MW-13D continues, concentrations may regularly exceed the cleanup level but will remain below the Puget Sound regional background of 8 µg/L (Ecology, 2016) for more than 10 years. The projected restoration timeframe for arsenic in groundwater at MW-14 is more than 10 years. Maintaining landfill gas collection performance may achieve 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 on Figure C-3.

A statistically significant increasing trend in dissolved arsenic concentrations was identified at monitoring well MW-13D. Dissolved arsenic concentrations exceeded 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.[1] These statistics confirm what is visually apparent on Figure C-3, showing historical groundwater concentrations.

The statistical analysis of groundwater data was performed in accordance with the Compliance Monitoring Plan for historical data collected since January 23, 2007. The program Sanitas WQStat (ver. 9.0.34) 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

[1] 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.

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, 2020, 2019 Annual Environmental Monitoring Report, Hansville Landfill, Kitsap County, Washington, February 28, 2020.

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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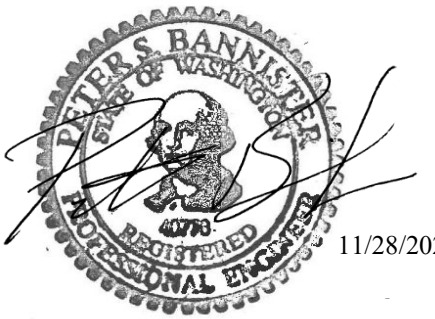
Sincerely,

Aspect consulting, LLC



11/28/2022

Peter S. Bannister, PE
Associate Engineer
pbannister@aspectconsulting.com

Ashley Provow, GIT
Staff Geologist
aprovow@aspectconsulting.com

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

cc: Phil Perley, Waste Management of Washington
Steve Brown, Kitsap Public Health District
Cris Matthews, Washington State Department of Ecology
Joshua Carter, Port Gamble S'Klallam Tribe

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ATTACHMENT A

Landfill Gas Data

Table A-3. Landfill Gas Data, Third Quarter, 2022

Project No. 160423, Hansville Landfill, Hansville, WA

Location	Device ID	Date/Time	Methane CH_4 (% by vol)	Carbon Dioxide CO_2 (% by vol)	Oxygen O_2 (% by vol)	Hydrogen Sulfide H_2S (% by vol)	Balance Bal (% by vol)	Static Pressure (inches H_2O)		Gas Temperature (degrees F)		Flow Rate (SCFM)	
								Initial	Adjusted	Initial	Adjusted	Initial	Adjusted
Blower Inlet	HANSBLIN	9/15/22 15:15	3.5	15.6	2.2	1	78.7	-4.97	-5.35	69.1	69.2	72.6	94.5
Blower Outlet	HANSBLOT	9/15/22 15:19	4	16.1	1.8	5	78.1	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 001	HANSR001	9/16/22 10:41	6.5	14.9	0	3	78.6	-0.5	-0.5	67.9	68.6	0.3	0.3
Extraction Well 002	HANSR002	9/16/22 10:54	2	14.8	4	1	79.2	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 003	HANSR003	9/16/22 12:40	6.1	15	0	0	78.9	-1.33	-1.33	66.6	67.5	3.3	3.1
Extraction Well 004	HANSR004	9/16/22 11:55	3	17.4	0.6	0	79	-1.53	-1.52	66.1	69.1	2.2	2.7
Extraction Well 005	HANSR005	9/16/22 12:09	4.4	18.9	0.2	0	76.5	-1.04	-1.03	68.8	73.2	3	2.8
Extraction Well 006	HANSR006	9/16/22 12:23	2.6	12.6	8	0	76.8	-1.59	-1.59	88	87.1	2.9	3.3
Extraction Well 007	HANSR007	9/16/22 12:30	0.2	13.8	4.4	0	81.6	-1.19	-1.17	67.5	68.6	2.6	2.7
Extraction Well 008	HANSR008	9/15/22 15:35	4.6	18.6	0	3	76.8	-0.73	-0.74	68.1	68.1	1.4	1.7
Extraction Well 009	HANSR009	9/15/22 15:52	1.4	14.3	3.1	0	81.2	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 010	HANSR010	9/16/22 10:32	5.5	11.2	3.8	3	79.5	-0.73	-0.73	76.6	76.8	0.9	0.7
Extraction Well 011	HANSR011	9/16/22 11:08	3	9.5	0	0	87.5	-0.59	-0.59	67	67	0.3	0.3
Extraction Well 012	HANSR012	9/16/22 11:17	8.6	5.4	0	0	86	-1	-1	66.6	66.8	1.9	0.9
Extraction Well 013	HANSR013	9/16/22 12:34	3.8	14.9	1.3	0	80	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TD-1	HANSTD01	9/15/22 14:49	1.8	21.7	0	43	76.5	-0.1	-0.11	0	0	15	15
Trench Collector TR-1	HANSTR01	9/16/22 12:17	0.2	15.7	3.3	0	80.8	-0.85	-0.86	67.1	70.4	2.8	2.8
Trench Collector TR-2	HANSTR02	9/15/22 15:47	7.1	18.7	0	0	74.2	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-3	HANSTR03	9/16/22 10:47	8.1	19.7	0	1	72.2	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-4	HANSTR04	9/16/22 11:49	3	17.5	0.5	0	79	-1.53	-1.53	71	72	2.7	2.4
Trench Collector TR-5	HANSTR05	9/16/22 11:28	4.4	18.8	0.7	0	76.1	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-6	HANSTR06	9/16/22 11:22	8.4	18.6	0.3	0	72.7	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-7	HANSTR07	9/16/22 11:42	7.1	17.3	0.7	0	74.9	-0.87	-0.88	65.2	65.7	2.1	2.9
Gas Probe 1	HANSGP01	9/15/22 10:45	0	0.5	20.8	1	78.2	0.01	N/A	N/A	N/A	N/A	N/A
Gas Probe 2 Shallow	HANSGP2S	9/15/22 10:05	0	0.1	21.1	1	78.2	0.03	N/A	N/A	N/A	N/A	N/A
Gas Probe 2 Middle	HANSGP2M	9/15/22 9:45	0	0.9	19.5	1	77.9	-0.02	N/A	N/A	N/A	N/A	N/A
Gas Probe 2 Deep	HANSGP2D	9/15/22 9:53	0	1	18.7	1	79.5	0	N/A	N/A	N/A	N/A	N/A
Gas Probe 3	HANSGP03	9/15/22 11:05	0	0.8	20.5	1	80.3	0.04	N/A	N/A	N/A	N/A	N/A
Gas Probe 4	HANSGP04	9/15/22 12:08	0	1	20.1	0	78.5	0.01	N/A	N/A	N/A	N/A	N/A
Gas Probe 5	HANSGP05	9/15/22 13:41	0	0.1	21	0	79.9	0.03	N/A	N/A	N/A	N/A	N/A
Gas Probe 6	HANSGP06	9/15/22 14:04	0	2	19.2	1	79	0.01	N/A	N/A	N/A	N/A	N/A
Gas Probe 7	HANSGP07	9/16/22 9:50	0	3.4	18.3	1	79.8	0	N/A	N/A	N/A	N/A	N/A

Notes:

Flow rates measured using orifice plates

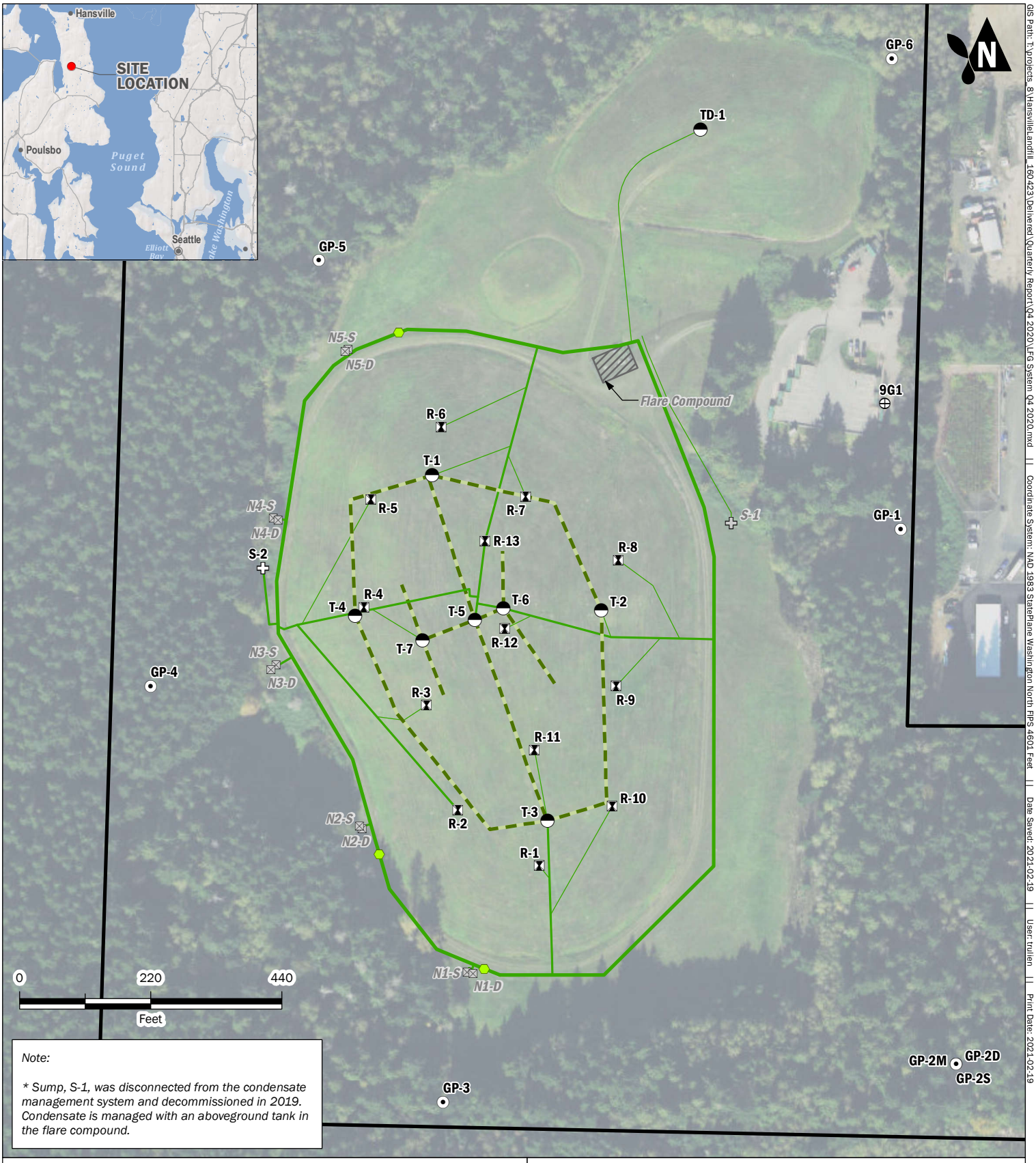
N/A = indicates parameter not measured

inches H_2O = inches water column

degrees F = degrees Fahrenheit

SCFM = standard cubic feet per minute

(--) = indicates location was not monitored and is to be decommissioned due to little to no landfill gas collection



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

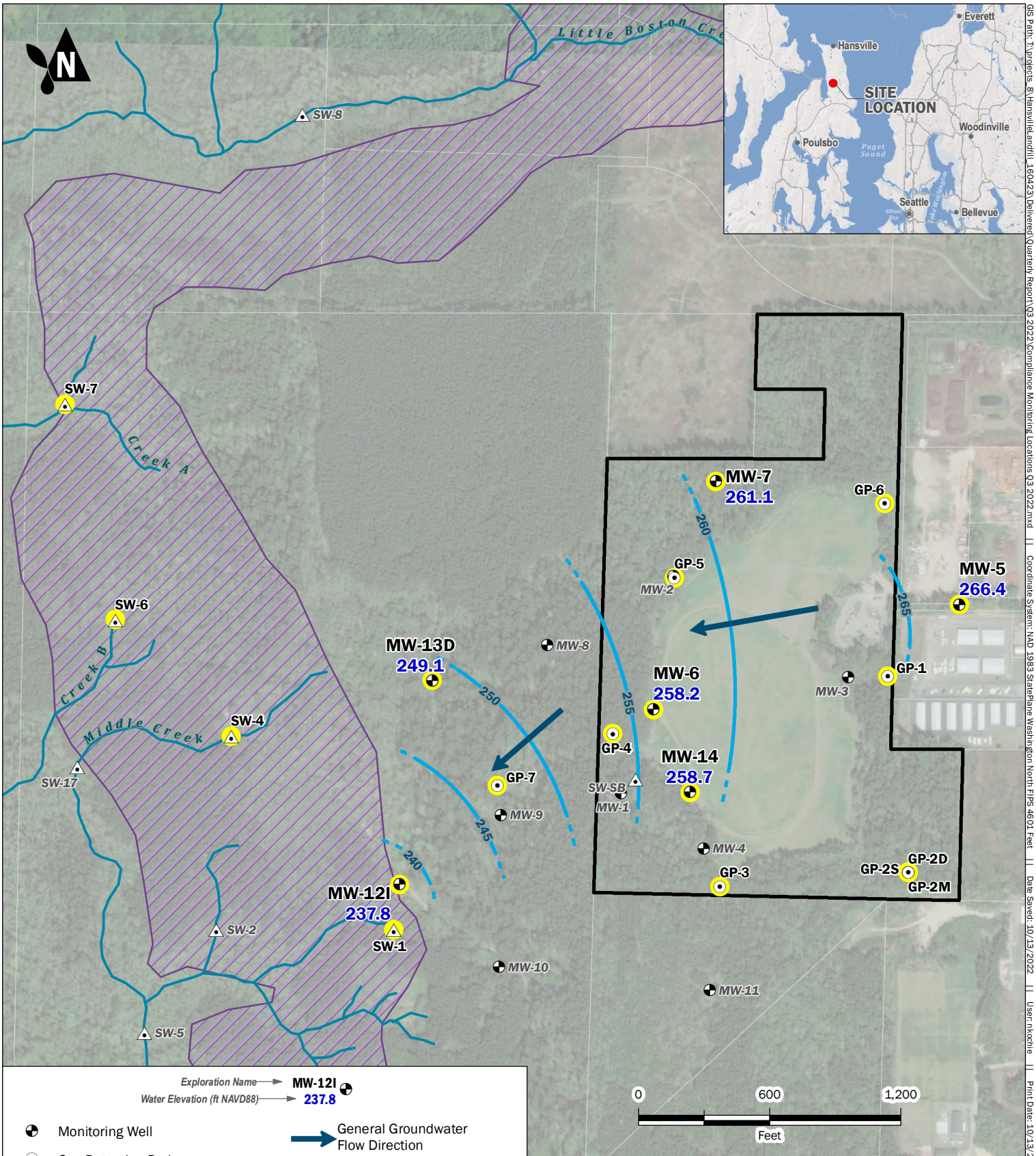
2022 Third Quarter Environmental Monitoring
Report Hansville Landfill
Kitsap County, Washington

Aspect Consulting	SEPT-2022	BY: MLK / RAP	FIGURE NO. A-1
	PROJECT NO. 160423	REVISED BY: MLK	

GIS Path: T:\projects_8\HansvilleLandfill_160423\Delivered\Quarterly Report\Q4 2020\LFG System Q4 2020.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 2021-02-19 || User: trullen || Print Date: 2021-02-19

ATTACHMENT B

Water Quality Results



Exploration Name → MW-12I
Water Elevation (ft NAVD88) → 237.8

- Monitoring Well
- Gas Detection Probe
- Surface Water Station
- Compliance Monitoring Location
- Water Elevation Contour (ft NAVD88, dashed where inferred) *Measured July 20th, 2022*
- 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

2022 Third Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, Washington

Aspect Consulting	OCT-2022	BY: MLK / RAP	FIGURE NO. B-1
	PROJECT NO. 160423	REVISED BY: NLK / AWP	

GIS Path: T:\projects_8\Hansville\Landfill_160423\Delivered\Quarterly Report\Q3 2022\Compliance Monitoring Locations Q3 2022.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 10/13/2022 || User: nkochle || Print Date: 10/13/2022

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	100.52	266.4
MW-6	332.0	332.7	260	245	74.47	258.2
MW-7	344.3	346.0	259	244	84.89	261.1
MW-12I	245.6	248.1	217	207	10.28	237.8
MW-13D	258.1	260.4	205	195	11.34	249.1
MW-14	338.6	341.1	262	247	82.45	258.7

Notes:

Depths to water collected July 20, 2022.

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

ft = feet

Table B-2. Groundwater Quality Results

Project No. 160423, Hansville Landfill, Hansville Washington

		Location	MW-5	MW-6	MW-7	MW-12I	MW-13D	MW-14
		Date	07/20/2022	07/20/2022	07/20/2022	07/20/2022	07/20/2022	07/20/2022
Parameter	**Units**	**Site Cleanup Level**						
Field Parameters								
Dissolved Oxygen	mg/L		**7.41**	**0.43**	**0.58**	**0.43**	**0.44**	**0.23**
pH	pH units		**7.16**	**6.94**	**6.52**	**7.03**	**7.38**	**7.44**
Redox	mV		**38.5**	**68.7**	**48.9**	**59.0**	**59.8**	**43.5**
Specific Conductivity	uS/cm		**111.0**	**225.6**	**185.7**	**96.1**	**115.0**	**113.7**
Temperature	deg C		**13.3**	**12.9**	**11.5**	**10.9**	**12.1**	**12.9**
Turbidity	NTU		**24.7**	**1.58**	**2.47**	**0.17**	**3.96**	**1.07**
Conventionals								
Alkalinity	mg/L		**70**	**130**	**160**	**70**	**80**	**85**
Ammonia (as N)	mg/L		< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U	**0.052**
Bicarbonate	mg/L		**70**	**130**	**160**	**70**	**80**	**85**
Carbonate	mg/L		< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Chloride	mg/L		< 3 U	**7.3**	< 3 U	**4.6**	**5.5**	**3.5 J**
Nitrate (as N)	mg/L		**2.6**	**6**	**0.386**	< 0.1 U	**0.149**	< 0.1 U
Nitrite (as N)	mg/L		< 0.1 U	**0.27**	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Orthophosphate (as P)	mg/L		< 0.1 U	< 0.1 U	**< 0.1 UJ**	< 0.1 U	< 0.1 U	< 0.1 U
Sulfate	mg/L		**8.3 J**	**25**	< 5 U	**6.8**	**17**	**7 J**
Total Organic Carbon	mg/L		< 1 U	**1**	**1.4**	**2**	< 1 U	**1.7**
Dissolved Metals								
Arsenic	ug/L	5.0	**1.68**	**1.63**	**1.03**	**2.25**	**5**	**13.4**
Manganese	ug/L	2240	**1.9**	**360**	**1.5**	**30**	**5.4**	**910**
Volatile Organic Compounds (VOCs)								
Vinyl Chloride	ug/L	0.025	< 0.02 U	**0.042**	< 0.02 U	**0.045**	< 0.02 U	**0.033**

Notes:

Bold text = Analyte was detected

Shaded Cell = Result exceeded Site Cleanup level

U = Not detected at or above the Reporting Limit shown

mg/L = milligram per liter

ug/L = microgram per liter

J = Detected at a concentration less than the Reporting Limit, the value is an estimate

mV = millivolts

UJ = Non-detect, the value is an estimate

uS/cm = microSiemens per centimeter

deg C = degrees Celsius

NTU = Nephelometric Turbidity Units

Table B-3. Surface Water Quality Results

Project No. 160423, Hansville Landfill, Hansville Washington

		Location	SW-1	SW-4	SW-6	SW-7
		Date	07/20/2022	07/20/2022	07/20/2022	07/20/2022
Parameter	Units	Site Cleanup Level				
Field Parameters						
Dissolved Oxygen	mg/L		**8.32**	**8.77**	**8.75**	**8.95**
pH	pH units		**7.28**	**7.68**	**7.72**	**7.72**
Redox	mV		**40.9**	**56.6**	**43.0**	**43.0**
Specific Conductance	uS/cm		**112.8**	**110.8**	**97.6**	**97.6**
Temperature	deg C		**12.8**	**18.5**	**15.5**	**15.5**
Turbidity	NTU		**11.8**	**10.4**	**81.4**	**10**
Conventionals						
Alkalinity	mg/L		**69**	**170**	**71**	**83**
Ammonia (as N)	mg/L		< 0.03 U	< 0.03 U	< 0.03 U	< 0.03 U
Bicarbonate	mg/L		**69**	**170**	**71**	**83**
Carbonate	mg/L		< 10 U	< 10 U	< 10 U	< 10 U
Chloride	mg/L		**5.2**	**14**	**3.8**	**3.7**
Nitrate (as N)	mg/L		**2.6**	**1.26**	**0.747**	**1.06**
Nitrite (as N)	mg/L		< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Orthophosphate (as P)	mg/L		< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
Sulfate	mg/L		**9.3**	**25**	**5.4**	**8**
Total Organic Carbon	mg/L		**4.4**	**4**	**10**	**7.1**
Dissolved Metals						
Arsenic	ug/L	5.0	**0.773**	**1.67**	**3.88**	**2.15**
Manganese	ug/L	2240	**1.2**	**33**	**53**	**50**
Volatile Organic Compounds (VOCs)						
Vinyl Chloride	ug/L	0.025	< 0.02 U	< 0.02 U	< 0.02 U	< 0.02 U

Notes:

Bold text = Analyte was detected

Shaded Cell = Result exceeded Site Cleanup level

U = Not detected at or above the Reporting Limit shown

mg/L = milligram per liter

mg/L = milligram per liter

mV = millivolts

uS/cm = microSiemens per centimeter

deg C = degrees Celsius

NTU = Nephelometric Turbidity Units

ug/L = microgram per liter

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	8.0	1.96	62	Yes	5.2E-04	0.188
MW-14	Decreasing	-7.9	-1.96	62	Yes	-2.8E-03	-1.024

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	-8.3	-1.96	63	Yes	-6.3E-05	-0.023
MW-7	--	--	--	--	--	--	--
MW-12I	Decreasing	-7.6	-1.96	63	Yes	-7.3E-05	-0.027
MW-13D	--	--	--	--	--	--	--
MW-14	Decreasing	-9.0	-1.96	63	Yes	-8.6E-05	-0.031

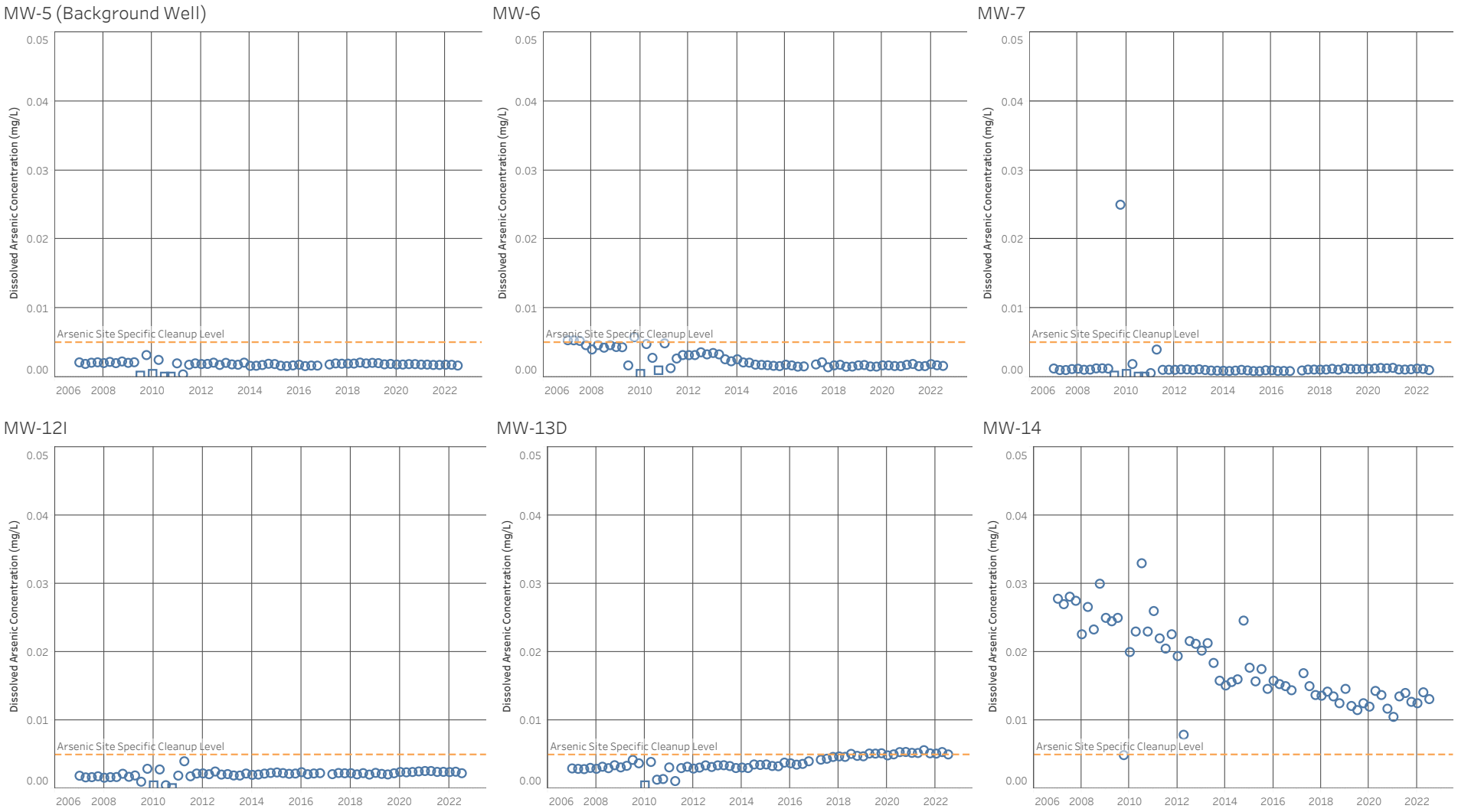
Notes:

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 2nd quarter 2006 through 3rd quarter 2022



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

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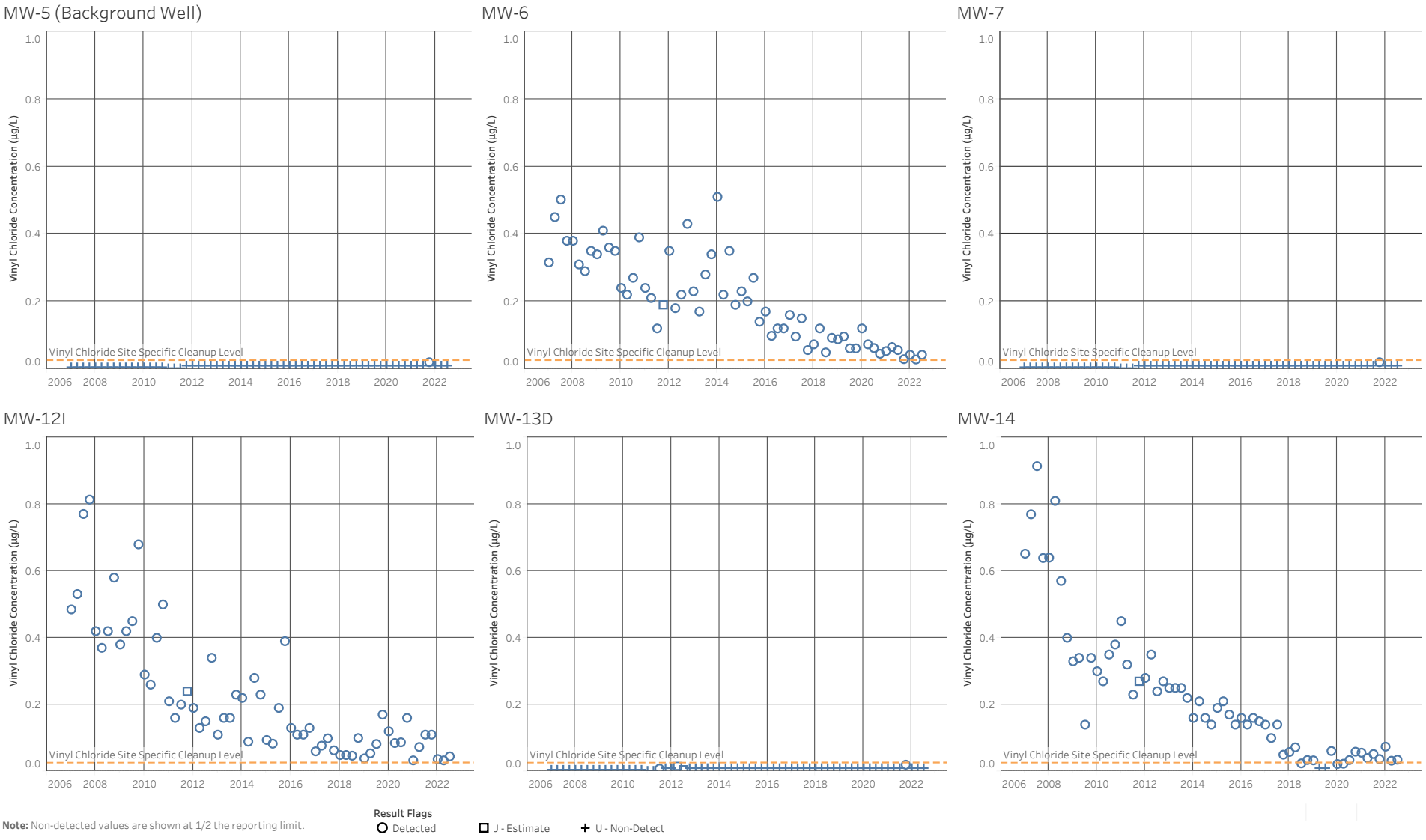
8/26/2022
Trend Plots (As)

Figure C-1 - 2022 Third Quarter Dissolved Arsenic Sampling Results
2022 Third 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

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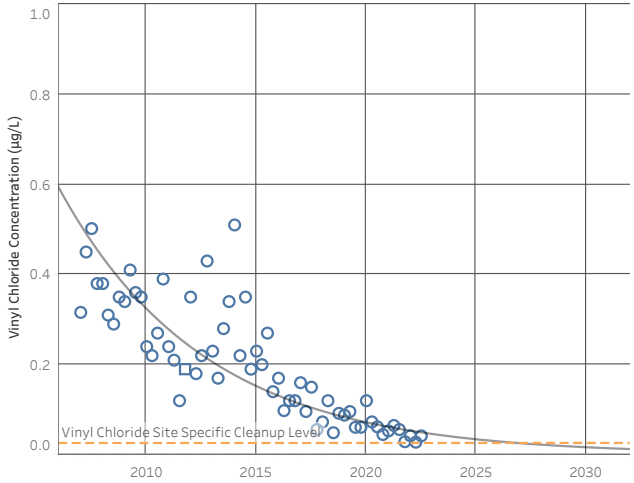
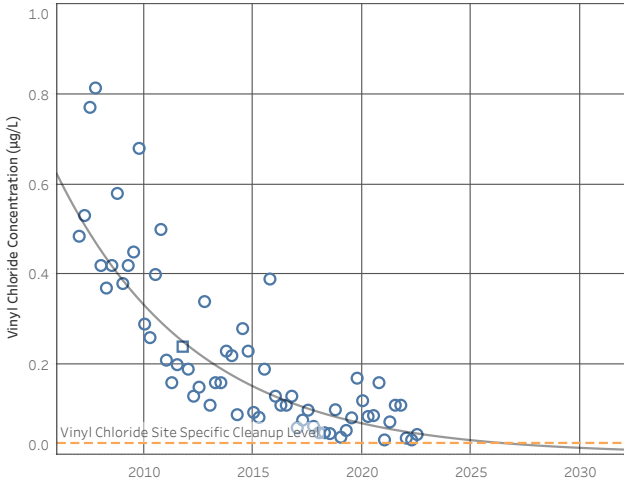
8/26/2022
Trend Plots (VC) 2021

Figure C-2 - 2022 Third Quarter Vinyl Chloride Sampling Results
2022 Third Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, WA

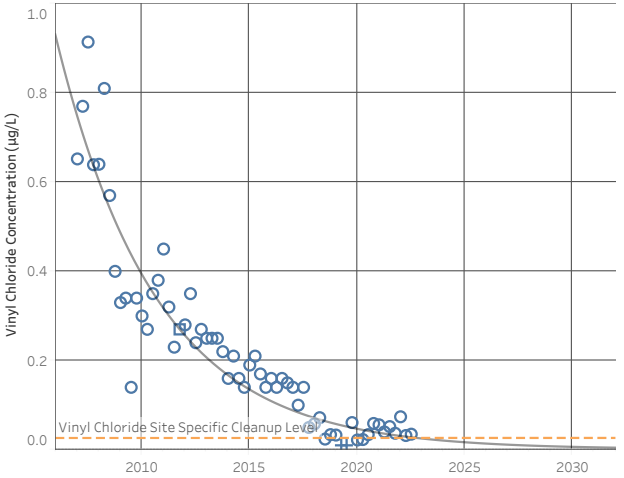
MW-6 Vinyl Chloride Trend



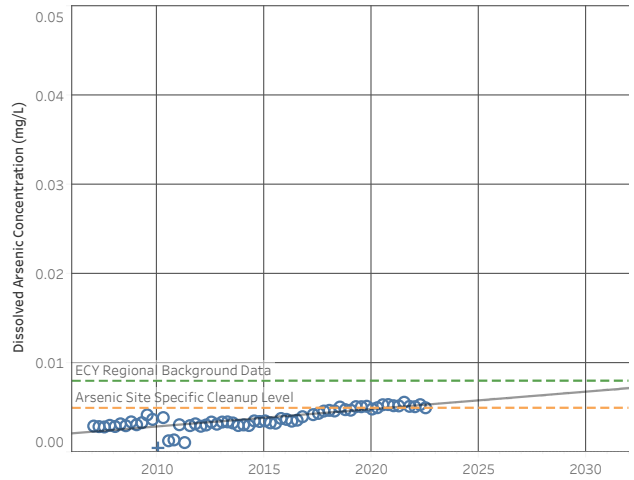
MW-12I Vinyl Chloride Trend



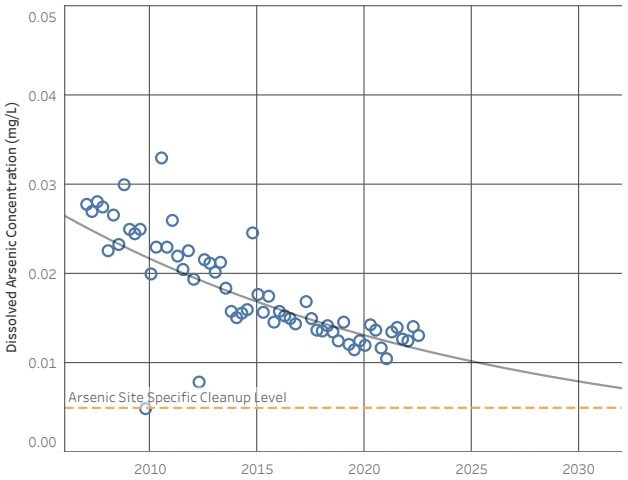
MW-14 Vinyl Chloride Trend



MW-13D Dissolved Arsenic Trend



MW-14 Dissolved Arsenic Trend



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

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

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8/26/2022
Trend Plots (VC) 2021

Figure C-3 - 10 Year Attenuation Curves
2022 Third Quarter Environmental Monitoring Report
Hansville Landfill
Kitsap County, WA

ATTACHMENT D

Field Forms and Laboratory Reports

Aspect CONSULTING

Sample number MW-7-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-7 Page: 1 of 1

Project Name: Hansville Landfill
Project Number: 160423
Date: 4/20/2022
Starting Water Level (ft TOC): 85.08
Sampled by: CB, CMT, AW?
Casing Stickup (ft):
Measuring Point of Well: N TOC
Total Depth (ft TOC): —
Screened Interval (ft. TOC) —
Casing Diameter (inches): —
Filter Pack Interval (ft. TOC) —

Casing Volume _____ (ft Water) x — (Lpfv)(gpf) = — (L)(gal)

Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): Mid Screen

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or (L))	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0836	0	0.1	85.08	—	—	—	—	—	—	Start
0841	0.5	0.1	85.07	9.2	187.0	~~1.56~~	6.86	102.0	68.9	Clear, Colorless, No Sheen, no smell
0846	~~0.5~~ 1.0	0.1	85.03	9.2	192.0	0.47	6.87	91.0	17.9	Clear, clear, Colorless, NS, no smell
0851	~~1.5~~	0.1	85.03	9.2	192.0	0.40	6.88	83.6	12.2	clear, Colorless, NS, no smell
0856	2.0	0.1	85.03	9.2	192.1	0.37	6.89	79.8	5.40	Clear, colorless, no smell, no sheen
0901	2.5	0.1	85.05	9.2	191.8	0.35	6.88	78.0	2.96	clear, colorless, no smell, no sheen
0906	3.0	0.1	85.04	9.2	191.6	0.37	6.86	75.0	2.94	clear, colorless, no smell, no sheen

Total Gallons Purged: ~~3.0~~ 1.5L
Total Casing Volumes Removed: —
Ending Water Level (ft TOC): 85.08
Ending Total Depth (ft TOC): —

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
0910	40	VOA	3	N	HCl	Clear	0.91	
~~0912~~	500	Amber	1	N	H2SO4	Clear		
~~0914~~	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number): YSI: Orange Turbidimeter: Orange WLI: Purple + White

Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water

Disposal of Discharged Water: on site

Observations/Comments:

Aspect CONSULTING

Sample number MW-5 - 220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-5 Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: CMT + CB + AWP
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) –
Filter Pack Interval (ft. TOC) –

Project Number: 160423
Starting Water Level (ft TOC): 100.53
Casing Stickup (ft): –
Total Depth (ft TOC): –
Casing Diameter (inches): 2"

Casing Volume – (ft Water) x – (Lpfv)(gpf) = – (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): midscreen

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
						–	–	–	–	Start
1003	0	0.1	100.53	–	–	6.67	6.78	170.3	8.22	clear, colorless, no odor, no sheen
1008	0.5		100.50	10.4	133.7	6.97	6.93	169.3	3.91	"
1013	1.0		100.47	10.4	129.6	6.99	6.78	173.5	3.81	"
1018	1.5		100.47	9.9	129.5	6.88	6.89	177.5	2.74	"
1023	2.0		100.49	9.86	129.1	6.88	7.03	181.2	2.23	"
1028	2.5		100.49	9.7	128.8	6.66	7.09	185.9	2.39	"
1033	3.0		100.49	9.8	128.7	6.69	7.07	190.2	2.01	"
1038	3.5	↓	100.49	9.8	128.8					

Total Gallons Purged 1 L
Total Casing Volumes Removed –
Ending Water Level (ft TOC): 100.49
Ending Total Depth (ft TOC): –

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1030	40	VOA	3	N	HCl	clear	2.51	
	~~500~~ 250	Amber	2	N	H2SO4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI
↓						↓	↓	

METHODS

Parameters measured with (instrument model & serial number): YSI: Orange Turbidimeter: OrangeWLI Purple + white
Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water
Disposal of Discharged Water: on site
Observations/Comments:

Aspect CONSULTING

Sample number SW-4-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-4

Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: CB
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) —
Filter Pack Interval (ft. TOC) —

Project Number: 160423
Starting Water Level (ft TOC): —
Casing Stickup (ft): —
Total Depth (ft TOC): —
Casing Diameter (inches): —

Casing Volume — (ft Water) x — (Lpfv)(gpf) = — (L)(gal)

Sample Intake Depth (ft TOC): —

Casing volumes: 3/4" = 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4" = 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1255	0	0.1	—	8.3	228.5	10.23	7.40	162.2	18.8	Start Sample lt brown, black particulate

Total Gallons Purged —
Total Casing Volumes Removed —
Ending Water Level (ft TOC) —
Ending Total Depth (ft TOC) —

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance Color	Appearance Turbidity & Sediment	Remarks
1:00	40	VOA	3	N	HCl	Clear w/ black particulates	18.8	
	500	Amber	1	N	H2SO4	↓	↓	
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number) YSI Orange Turbidimeter Orange WLI N/A
Purging Equipment dedicated bladder pump OR peristaltic Decon Equipment Alconox + water
Disposal of Discharged Water on site
Observations/Comments

Aspect CONSULTING

Sample number SW-1-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-1 Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: CB
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) –
Filter Pack Interval (ft. TOC) –

Project Number: 160423
Starting Water Level (ft TOC): –
Casing Stickup (ft): –
Total Depth (ft TOC): –
Casing Diameter (inches): –

Casing Volume – (ft Water) x – (Lpfv)(gpf) = – (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): –

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1445	–	0.1	–	10.0	205.5	6.45	6.86	137.4	47.1	Start

Total Gallons Purged – Total Casing Volumes Removed –

Ending Water Level (ft TOC): – Ending Total Depth (ft TOC) –

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1450	40	VOA	3	N	HCl	Brown	47.1	
	500	Amber	1	N	H2SO4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number): YSI Orange Turbidimeter Orange WLI n/a

Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water

Disposal of Discharged Water: on site

Observations/Comments:

Aspect CONSULTING

Sample number SW-7-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-7 Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: CB
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) ~
Filter Pack Interval (ft. TOC) –

Project Number: 160423
Starting Water Level (ft TOC): –
Casing Stickup (ft): –
Total Depth (ft TOC): –
Casing Diameter (inches): –

Casing Volume – (ft Water) x – (Lpfv)(gpf) = – (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): –

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1600	–	0.1	–	10.0	205.5	6.46	6.86	137.4	13.5	Start
										lt brown, no odor, no sheen

Total Gallons Purged – Total Casing Volumes Removed –

Ending Water Level (ft TOC) – Ending Total Depth (ft TOC) –

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1605	40	VOA	3	N	HCl	lt brown	13.5	
↓	500	Amber	1	N	H2SO4	↓	↓	
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
↓	250	Poly	1	Y	N	↓	↓	direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number): YSI orange Turbidimeter orange WLI N/A
Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water
Disposal of Discharged Water: on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-BD-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-BD

Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: AWP, CMT
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) –
Filter Pack Interval (ft. TOC) –

Project Number: 160423
Starting Water Level (ft TOC): 11
Casing Stickup (ft): –
Total Depth (ft TOC): –
Casing Diameter (inches): 2"

Casing Volume – (ft Water) x – (Lpfv)(gpf) = – (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): –

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1250	–	–	–	–	–	–	–	–	–	Start
1252	–	–	10.94	10.0	153.5	2.94	7.37	194.2	1.87	
1257	0.20	0.0805	10.98	10.0	155.0	3.25	7.70	168.3	6.21	
1302	0.25	0.02	11.14	9.8	149.3	1.49	7.76	165.2	14.8	
1307	0.4	0.02	11.10	10.0	148.2	1.01	7.79	162.9	8.16	
1312	0.75	0.03	11.02	10.0	148.3	0.80	7.66	169.5	7.69	
1317	1gal	0.03	11.21	10.0	148.2	0.74	7.50	175.6	7.47	
1322	1.5	0.10	11.20	10.1	148.3	0.76	7.31	183.4	5.55	

Total Gallons Purged: 1.5 gal
Total Casing Volumes Removed: –
Ending Water Level (ft TOC): 11.02
Ending Total Depth (ft TOC): –

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1325	40	VOA	3	N	HCl	clear	4.09	
	500	Amber	1	N	H2SO4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number): YSI: black Turbidimeter: green WLI: blue tape
Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water
Disposal of Discharged Water: on site
Observations/Comments:

Aspect CONSULTING

Sample number SW-6-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: SW-6 Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by:
Measuring Point of Well: N TOC
Screened Interval (ft. TOC) —
Filter Pack Interval (ft. TOC) —

Project Number: 160423
Starting Water Level (ft TOC): —
Casing Stickup (ft): —
Total Depth (ft TOC): —
Casing Diameter (inches): —

Casing Volume — (ft Water) x — (Lpfv)(gpf) = — (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): —

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1345	0	0.1	—	7.8	77.2	9.41	7.18	120.8	12.8	Start

Total Gallons Purged — Total Casing Volumes Removed —

Ending Water Level (ft TOC) — Ending Total Depth (ft TOC) —

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1350	40	VOA	3	N	HCl	Brown	12.3	
	500	Amber	1	N	H_2SO_4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO_3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number) YSI Drawer 2 Turbidimeter Drawer 2 WLI —

Purging Equipment dedicated bladder pump OR peristaltic Decon Equipment Alconox + water

Disposal of Discharged Water on site

Observations/Comments —

Aspect CONSULTING

Sample number MW-12I-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-12I Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: AWP + CMT
Measuring Point of Well: N TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 160423
Starting Water Level (ft TOC): 9.71
Casing Stickup (ft): —
Total Depth (ft TOC): —
Casing Diameter (Inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1422	--	-	-	-	-	-	-	-	-	Start
1424	1.0	.5	9.96	9.6	68.7	0.37	4.84	334.9	1.74	
1429	1.50	.2	9.84	9.5	69.5	0.32	4.80	337.0	4.20	
1434	2.0	.16	9.84	9.5	70.6	0.25	4.68	340.1	3.52	
1439	2.25	.13	9.91	9.6	72.3	0.25	4.56	343.8	3.54	
1444	2.75	.125	9.89	9.4	70.2	0.23	4.45	347.3	0.87	

Total Gallons Purged: 3 gal
Total Casing Volumes Removed: —
Ending Water Level (ft TOC): 9.082
Ending Total Depth (ft TOC): —

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1445	40	VOA	3	N	HCl	Clear	1.27	
	500	Amber	1	N	H2SO4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number) YSI: blue Turbidimeter: green WLI: black + white
Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water
Disposal of Discharged Water: on site
Observations/Comments:

Aspect CONSULTING

Sample number MW-4-220420

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-4 Page: 1 of 1

Project Name: Hansville Landfill
Date: 4/20/2022
Sampled by: AMP
Measuring Point of Well: N TOC
Screened Interval (ft. TOC)
Filter Pack Interval (ft. TOC)

Project Number: 160423
Starting Water Level (ft TOC): 74.34
Casing Stickup (ft): —
Total Depth (ft TOC): —
Casing Diameter (inches): 2"

Casing Volume _____ (ft Water) x _____ (Lpfv)(gpf) = _____ (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): _____

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
1550	-	-	-	-	-	-	-	-	-	Start
1602	-		74.4	10.4	2894	9.63	-2.29	407.7	11.7	
1607	0.25	0.1	74.45	11.9	2870	8.30	-1.66	414.0	3.88	
1612	0.5	0.1	74.45	11.9	2902	8.50	-2.09	424	1.94	
1617	0.75	0.1	74.5	11.9	2792	8.58	-1.91	410.5	1.43	
1622	1.00	0.1	74.5	11.9	2833	8.46	-1.77	401.6	0.62	
1627	1.25	0.1	74.4	11.8	2829	8.44	-1.53	396.7	0.00	
1632	1.50	0.1	74.4	11.7	2845	8.43	-0.36	398.0	0.83	
1637	1.5	0.1	74.30	11.60	2854	8.89	0.21	396.1	1.11	
1642	1.70	0.1	74.45	11.5	2866	8.49	0.35	394.8	0.86	
1647	1.75	0.1	74.40	11.2	2870	8.83	0.57	391.0	0.40	

Total Gallons Purged 1.75
Total Casing Volumes Removed _____
Ending Water Level (ft TOC) 74.39
Ending Total Depth (ft TOC) _____

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
1650	40	VOA	3	N	HCl	clear	0.45	
	500	Amber	1	N	H_2SO_4			
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO_3			direct sub to ARI
	250	Poly	1	Y	N			direct sub to ARI

METHODS

Parameters measured with (instrument model & serial number) YSI Blue Turbidimeter Green WLI Blue/white
Purging Equipment dedicated bladder pump OR peristaltic Decon Equipment Alconox + water
Disposal of Discharged Water on site
Observations/Comments pH ~~probe~~ probe is broken

Aspect

Sample number MW-14-220421

GROUNDWATER SAMPLING RECORD

WELL NUMBER: MW-14

Project Name: Hansville Landfill
Date: 4.20.2022
Sampled by:
Measuring Point of Well: N TOC
Screened Interval (ft. TOC):
Filter Pack Interval (ft. TOC):

Project Number: 160423
Starting Water Level (ft TOC): 82.05
Casing Stickup (ft): —
Total Depth (ft TOC): —
Casing Diameter (inches): 2"

Casing Volume — (ft Water) x — (Lpfv)(gpf) = — (L)(gal)
Casing volumes: 3/4"= 0.02 gpf 2" = 0.16 gpf 4" = 0.65 gpf 6" = 1.47 gpf
3/4"= 0.09 Lpf 2" = 0.62 Lpf 4" = 2.46 Lpf 6" = 5.56 Lpf

Sample Intake Depth (ft TOC): midscreen

PURGING MEASUREMENTS

Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	
Time	Cumul. Volume (gal or L)	Purge Rate (gpm or Lpm)	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mv)	Turbidity (NTU)	Comments
0750	0	~0.1	—	—	—	—	—	—	—	Start
0755	0.3	~0.1	82.06	10.1	117.4	5.11	7.22	141.0	4.63	clear colorless, no odor, no sheen
0800	0.6	~0.1	82.06	10.2	~~107~~ 115.9	2.51	7.21	143.9	3.45	"
0805	1.0	~0.1	82.06	10.1	115.1	3.06	7.21	144.1	2.74	"
0810	1.3	~0.1	82.06	10.3	115.2	3.04	7.22	149.8	1.99	"
0815	1.6	~0.1	82.04	10.2	115.3	3.01	7.22	149.9	1.48	"

Total Gallons Purged: 1.6 gal
Total Casing Volumes Removed: —
Ending Water Level (ft TOC): 82.30
Ending Total Depth (ft TOC): —

SAMPLE INVENTORY

Time	Volume mL	Bottle Type	Quantity	Filtration	Preservation	Appearance: Color	Appearance: Turbidity & Sediment	Remarks
0820	40	VOA	3	N	HCl	Clear	2.01	
↓	500	Amber	1	N	H2SO4	↓	↓	direct sub to ARI
	500	Poly	2	N	N			direct sub to ARI
	500	Poly	2	Y	HNO3			direct sub to ARI
	250	Poly	1	Y	N			

METHODS

Parameters measured with (instrument model & serial number) YSI: orange Turbidimeter: Orange WLI: purple/white
Purging Equipment: dedicated bladder pump OR peristaltic Decon Equipment: Alconox + water
Disposal of Discharged Water: on site
Observations/Comments: Collected duplicate Sample MW-200D-220421

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-161400-1
Client Project/Site: Hansville Landfill
Sampling Event: 2Q_3Q_4Q Sampling

For:
Aspect Consulting
350 Madison Ave N
Bainbridge Island, Washington 98110

Attn: Ms. Meilani Lanier-Kamaha'o

Janice S. Collins

Authorized for release by:
5/26/2022 5:05:17 PM

Janice Collins, Project Management Assistant I
(303)736-0100
Janice.Collins@et.eurofinsus.com

Table of Contents

Definitions/Glossary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

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 ID: 280-161400-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Aspect Consulting

Project: Hansville Landfill

Report Number: 280-161400-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. 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) less than Eurofins TestAmerica's standard reporting limit. 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.

Sample Receiving

The samples were received on 04/22/2022; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 0.4°C and 0.6°C C.

Holding Times

All holding times were within established control limits.

Method Blanks

All Method Blanks were within established control limits.

Laboratory Control Samples (LCS)

All Laboratory Control Samples were within established control limits.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD)

The percent recoveries and/or relative percent difference of the MS/MSD performed on a sample from another client were outside control limits for Dissolved Manganese Method 6020 because the sample concentration was greater than four times the spike amount. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, no corrective action was taken.

Sample MW14-220421 was selected to fulfill the laboratory batch quality control requirements for Method 350.1. Analysis of the laboratory generated MS/MSD for this sample exhibited recoveries of Ammonia control limit above the upper control limit. In addition, the RPD was outside of the RPD limits for Ammonia. Because the corresponding Laboratory Control Sample and the Method Blank sample were within control limits, this anomaly may be due to matrix interference and no corrective action was taken.

All other MS and MSD samples were within established control limits.

General Comments

The analyses for Method 8260C and Method 8260C SIM were performed by Eurofins Buffalo.
Their address and phone number are:
Eurofins Buffalo

Job ID: 280-161400-1 (Continued)

Laboratory: Eurofins Denver (Continued)

10 Hazelwood Drive, Suite 106
Amherst, NY 14228
716-691-2600

The analysis for Nitrate, Nitrite, Ortho-phos Method 300.0, and Dissolved Arsenic Method 200.8 were performed by ARI. Their address and phone number are:
Analytical Resources, Inc.
4611 S.134th Place
Tukwila, WA 98168-3240
206-695-6200

Detection Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Client Sample ID: MW7-220420 — Lab Sample ID: 280-161400-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.3		1.0		ug/L	1		6020	Dissolved
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	1.8		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW5-220420 — Lab Sample ID: 280-161400-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	7.1		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	78		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	78		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: SW6-220420 — Lab Sample ID: 280-161400-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	35		1.0		ug/L	1		6020	Dissolved
Chloride	3.3		3.0		mg/L	1		300.0	Total/NA
Total Alkalinity	46		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	46		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	22		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW4-220420 — Lab Sample ID: 280-161400-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	35		1.0		ug/L	1		6020	Dissolved
Chloride	10		3.0		mg/L	1		300.0	Total/NA
Sulfate	17		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	9.7		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW1-220420 — Lab Sample ID: 280-161400-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		1.0		ug/L	1		6020	Dissolved
Chloride	9.4		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
Total Organic Carbon - Average	2.7		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: SW7-220420 — Lab Sample ID: 280-161400-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	27		1.0		ug/L	1		6020	Dissolved
Chloride	3.3		3.0		mg/L	1		300.0	Total/NA
Sulfate	7.8		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	57		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	57		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	9.2		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: 280-161400-1

Client Sample ID: MW13D-220420 — Lab Sample ID: 280-161400-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	6.3		1.0		ug/L	1		6020	Dissolved
Chloride	5.1		3.0		mg/L	1		300.0	Total/NA
Sulfate	15		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	73		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	73		10		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW12I-220420 — Lab Sample ID: 280-161400-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.033		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	27		1.0		ug/L	1		6020	Dissolved
Chloride	3.8		3.0		mg/L	1		300.0	Total/NA
Sulfate	5.7		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	70		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	70		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	2.0		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW6-220420 — Lab Sample ID: 280-161400-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.028		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	340		1.0		ug/L	1		6020	Dissolved
Chloride	6.8		3.0		mg/L	1		300.0	Total/NA
Sulfate	25		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	1.4		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW14-220421 — Lab Sample ID: 280-161400-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.032		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	1300		1.0		ug/L	1		6020	Dissolved
Chloride	3.6		3.0		mg/L	1		300.0	Total/NA
Sulfate	7.0		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	93		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	93		10		mg/L	1		SM 2320B	Total/NA
Total Organic Carbon - Average	2.5		1.0		mg/L	1		SM 5310B	Total/NA

Client Sample ID: MW20DD-220421 — Lab Sample ID: 280-161400-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.037		0.020		ug/L	1		8260C SIM	Total/NA
Manganese	1300		1.0		ug/L	1		6020	Dissolved
Chloride	3.9		3.0		mg/L	1		300.0	Total/NA
Sulfate	7.6		5.0		mg/L	1		300.0	Total/NA
Total Alkalinity	94		10		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity	94		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: TB1-220421 — Lab Sample ID: 280-161400-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Method	Method Description	Protocol	Laboratory
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6020	Metals (ICP/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
350.1	Nitrogen, Ammonia	MCAWW	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL 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	TAL DEN
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
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:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-161400-1	MW7-220420	Water	04/20/22 09:10	04/22/22 11:00
280-161400-2	MW5-220420	Water	04/20/22 10:40	04/22/22 11:00
280-161400-3	SW6-220420	Water	04/20/22 13:50	04/22/22 11:00
280-161400-4	SW4-220420	Water	04/20/22 13:00	04/22/22 11:00
280-161400-5	SW1-220420	Water	04/20/22 14:50	04/22/22 11:00
280-161400-6	SW7-220420	Water	04/20/22 16:05	04/22/22 11:00
280-161400-7	MW13D-220420	Water	04/20/22 13:25	04/22/22 11:00
280-161400-8	MW12I-220420	Water	04/20/22 14:45	04/22/22 11:00
280-161400-9	MW6-220420	Water	04/20/22 16:50	04/22/22 11:00
280-161400-10	MW14-220421	Water	04/21/22 08:20	04/22/22 11:00
280-161400-11	MW20DD-220421	Water	04/21/22 07:00	04/22/22 11:00
280-161400-12	TB1-220421	Water	04/20/22 09:10	04/22/22 11:00

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

Client Sample ID: MW7-220420
Date Collected: 04/20/22 09:10
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/01/22 22:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*118*		*50 - 150*		*05/01/22 22:16*	*1*
TBA-d9 (Surr)	*101*		*50 - 150*		*05/01/22 22:16*	*1*

Client Sample ID: MW5-220420
Date Collected: 04/20/22 10:40
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/01/22 22:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*117*		*50 - 150*		*05/01/22 22:44*	*1*
TBA-d9 (Surr)	*97*		*50 - 150*		*05/01/22 22:44*	*1*

Client Sample ID: SW6-220420
Date Collected: 04/20/22 13:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/01/22 23:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*50 - 150*		*05/01/22 23:12*	*1*
TBA-d9 (Surr)	*91*		*50 - 150*		*05/01/22 23:12*	*1*

Client Sample ID: SW4-220420
Date Collected: 04/20/22 13:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/01/22 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*118*		*50 - 150*		*05/01/22 23:40*	*1*
TBA-d9 (Surr)	*97*		*50 - 150*		*05/01/22 23:40*	*1*

Client Sample ID: SW1-220420
Date Collected: 04/20/22 14:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/02/22 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*118*		*50 - 150*		*05/02/22 00:08*	*1*
TBA-d9 (Surr)	*108*		*50 - 150*		*05/02/22 00:08*	*1*

Client Sample ID: SW7-220420
Date Collected: 04/20/22 16:05
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/02/22 00:36	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*116*		*50 - 150*		*05/02/22 00:36*	*1*
TBA-d9 (Surr)	*91*		*50 - 150*		*05/02/22 00:36*	*1*

Client Sample ID: MW13D-220420 — **Lab Sample ID: 280-161400-7**
Date Collected: 04/20/22 13:25 — **Matrix: Water**
Date Received: 04/22/22 11:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/02/22 01:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*115*		*50 - 150*		*05/02/22 01:04*	*1*
TBA-d9 (Surr)	*101*		*50 - 150*		*05/02/22 01:04*	*1*

Client Sample ID: MW12I-220420 — **Lab Sample ID: 280-161400-8**
Date Collected: 04/20/22 14:45 — **Matrix: Water**
Date Received: 04/22/22 11:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.033**		0.020		ug/L			05/02/22 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*117*		*50 - 150*		*05/02/22 01:32*	*1*
TBA-d9 (Surr)	*99*		*50 - 150*		*05/02/22 01:32*	*1*

Client Sample ID: MW6-220420 — **Lab Sample ID: 280-161400-9**
Date Collected: 04/20/22 16:50 — **Matrix: Water**
Date Received: 04/22/22 11:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.028**		0.020		ug/L			05/02/22 02:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*117*		*50 - 150*		*05/02/22 02:00*	*1*
TBA-d9 (Surr)	*91*		*50 - 150*		*05/02/22 02:00*	*1*

Client Sample ID: MW14-220421 — **Lab Sample ID: 280-161400-10**
Date Collected: 04/21/22 08:20 — **Matrix: Water**
Date Received: 04/22/22 11:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.032**		0.020		ug/L			05/02/22 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*118*		*50 - 150*		*05/02/22 02:28*	*1*
TBA-d9 (Surr)	*90*		*50 - 150*		*05/02/22 02:28*	*1*

Client Sample ID: MW20DD-220421 — **Lab Sample ID: 280-161400-11**
Date Collected: 04/21/22 07:00 — **Matrix: Water**
Date Received: 04/22/22 11:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**0.037**		0.020		ug/L			05/02/22 02:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*115*		*50 - 150*		*05/02/22 02:56*	*1*
TBA-d9 (Surr)	*100*		*50 - 150*		*05/02/22 02:56*	*1*

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

Client Sample ID: TB1-220421
Date Collected: 04/20/22 09:10
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			05/02/22 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*115*		*50 - 150*		*05/02/22 03:24*	*1*
TBA-d9 (Surr)	*99*		*50 - 150*		*05/02/22 03:24*	*1*

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

Client Sample ID: MW7-220420
Date Collected: 04/20/22 09:10
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1.3**		1.0		ug/L		04/26/22 10:05	04/26/22 18:46	1

Client Sample ID: MW5-220420
Date Collected: 04/20/22 10:40
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/26/22 10:05	04/26/22 18:50	1

Client Sample ID: SW6-220420
Date Collected: 04/20/22 13:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**35**		1.0		ug/L		04/26/22 10:05	04/26/22 18:54	1

Client Sample ID: SW4-220420
Date Collected: 04/20/22 13:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**35**		1.0		ug/L		04/26/22 10:05	04/26/22 18:57	1

Client Sample ID: SW1-220420
Date Collected: 04/20/22 14:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1.1**		1.0		ug/L		04/26/22 10:05	04/26/22 19:01	1

Client Sample ID: SW7-220420
Date Collected: 04/20/22 16:05
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**27**		1.0		ug/L		04/26/22 10:05	04/26/22 19:04	1

Client Sample ID: MW13D-220420
Date Collected: 04/20/22 13:25
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**6.3**		1.0		ug/L		04/26/22 10:05	04/26/22 19:08	1

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

Client Sample ID: MW12I-220420
Date Collected: 04/20/22 14:45
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**27**		1.0		ug/L		04/27/22 09:33	04/28/22 09:41	1

Client Sample ID: MW6-220420
Date Collected: 04/20/22 16:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**340**		1.0		ug/L		04/27/22 09:33	04/28/22 09:45	1

Client Sample ID: MW14-220421
Date Collected: 04/21/22 08:20
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1300**		1.0		ug/L		04/27/22 09:33	04/28/22 09:49	1

Client Sample ID: MW20DD-220421
Date Collected: 04/21/22 07:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**1300**		1.0		ug/L		04/27/22 09:33	04/28/22 09:53	1

General Chemistry

Client Sample ID: MW7-220420
Date Collected: 04/20/22 09:10
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			05/04/22 15:40	1
Sulfate	ND		5.0		mg/L			05/04/22 15:40	1
Ammonia as N	ND		0.030		mg/L			05/05/22 10:30	1
Total Alkalinity	**140**		10		mg/L			04/27/22 21:15	1
Bicarbonate Alkalinity	**140**		10		mg/L			04/27/22 21:15	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:15	1
Total Organic Carbon - Average	**1.8**		1.0		mg/L			04/27/22 01:08	1

Client Sample ID: MW5-220420
Date Collected: 04/20/22 10:40
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			05/04/22 15:55	1
Sulfate	**7.1**		5.0		mg/L			05/04/22 15:55	1
Ammonia as N	ND		0.030		mg/L			05/02/22 15:40	1
Total Alkalinity	**78**		10		mg/L			04/27/22 21:20	1
Bicarbonate Alkalinity	**78**		10		mg/L			04/27/22 21:20	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:20	1
Total Organic Carbon - Average	ND		1.0		mg/L			04/27/22 02:24	1

Client Sample ID: SW6-220420
Date Collected: 04/20/22 13:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.3**		3.0		mg/L			05/04/22 16:10	1

General Chemistry (Continued)

Client Sample ID: SW6-220420
Date Collected: 04/20/22 13:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			05/04/22 16:10	1
Ammonia as N	ND		0.030		mg/L			05/02/22 14:55	1
Total Alkalinity	**46**		10		mg/L			04/27/22 21:26	1
Bicarbonate Alkalinity	**46**		10		mg/L			04/27/22 21:26	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:26	1
Total Organic Carbon - Average	**22**		1.0		mg/L			04/27/22 02:40	1

Client Sample ID: SW4-220420
Date Collected: 04/20/22 13:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**10**		3.0		mg/L			05/04/22 17:10	1
Sulfate	**17**		5.0		mg/L			05/04/22 17:10	1
Ammonia as N	ND		0.030		mg/L			05/05/22 10:48	1
Total Alkalinity	**130**		10		mg/L			04/27/22 21:32	1
Bicarbonate Alkalinity	**130**		10		mg/L			04/27/22 21:32	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:32	1
Total Organic Carbon - Average	**9.7**		1.0		mg/L			04/27/22 02:55	1

Client Sample ID: SW1-220420
Date Collected: 04/20/22 14:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.4**		3.0		mg/L			05/04/22 17:56	1
Sulfate	**17**		5.0		mg/L			05/04/22 17:56	1
Ammonia as N	ND		0.030		mg/L			05/05/22 11:12	1
Total Alkalinity	**100**		10		mg/L			04/27/22 21:50	1
Bicarbonate Alkalinity	**100**		10		mg/L			04/27/22 21:50	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:50	1
Total Organic Carbon - Average	**2.7**		1.0		mg/L			04/27/22 03:11	1

Client Sample ID: SW7-220420
Date Collected: 04/20/22 16:05
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.3**		3.0		mg/L			05/04/22 18:11	1
Sulfate	**7.8**		5.0		mg/L			05/04/22 18:11	1
Ammonia as N	ND		0.030		mg/L			05/05/22 11:14	1
Total Alkalinity	**57**		10		mg/L			04/27/22 21:56	1
Bicarbonate Alkalinity	**57**		10		mg/L			04/27/22 21:56	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 21:56	1
Total Organic Carbon - Average	**9.2**		1.0		mg/L			04/27/22 03:25	1

Client Sample ID: MW13D-220420
Date Collected: 04/20/22 13:25
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5.1**		3.0		mg/L			05/04/22 18:26	1
Sulfate	**15**		5.0		mg/L			05/04/22 18:26	1
Ammonia as N	ND		0.030		mg/L			05/05/22 11:06	1

General Chemistry (Continued)

Client Sample ID: MW13D-220420
Date Collected: 04/20/22 13:25
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	**73**		10		mg/L			04/27/22 22:01	1
Bicarbonate Alkalinity	**73**		10		mg/L			04/27/22 22:01	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 22:01	1
Total Organic Carbon - Average	ND		1.0		mg/L			04/27/22 03:39	1

Client Sample ID: MW12I-220420
Date Collected: 04/20/22 14:45
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.8**		3.0		mg/L			05/04/22 18:41	1
Sulfate	**5.7**		5.0		mg/L			05/04/22 18:41	1
Ammonia as N	ND		0.030		mg/L			05/02/22 15:08	1
Total Alkalinity	**70**		10		mg/L			04/27/22 22:07	1
Bicarbonate Alkalinity	**70**		10		mg/L			04/27/22 22:07	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 22:07	1
Total Organic Carbon - Average	**2.0**		1.0		mg/L			04/27/22 03:54	1

Client Sample ID: MW6-220420
Date Collected: 04/20/22 16:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.8**		3.0		mg/L			05/04/22 18:56	1
Sulfate	**25**		5.0		mg/L			05/04/22 18:56	1
Ammonia as N	ND		0.030		mg/L			05/02/22 15:27	1
Total Alkalinity	**140**		10		mg/L			04/27/22 22:13	1
Bicarbonate Alkalinity	**140**		10		mg/L			04/27/22 22:13	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 22:13	1
Total Organic Carbon - Average	**1.4**		1.0		mg/L			04/27/22 04:08	1

Client Sample ID: MW14-220421
Date Collected: 04/21/22 08:20
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.6**		3.0		mg/L			05/04/22 19:11	1
Sulfate	**7.0**		5.0		mg/L			05/04/22 19:11	1
Ammonia as N	ND	F2 F1	0.030		mg/L			05/02/22 16:17	1
Total Alkalinity	**93**		10		mg/L			04/27/22 22:19	1
Bicarbonate Alkalinity	**93**		10		mg/L			04/27/22 22:19	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 22:19	1
Total Organic Carbon - Average	**2.5**		1.0		mg/L			04/27/22 04:24	1

Client Sample ID: MW20DD-220421
Date Collected: 04/21/22 07:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3.9**		3.0		mg/L			05/05/22 02:25	1
Sulfate	**7.6**		5.0		mg/L			05/05/22 02:25	1
Ammonia as N	ND		0.030		mg/L			05/02/22 15:32	1
Total Alkalinity	**94**		10		mg/L			04/27/22 22:24	1
Bicarbonate Alkalinity	**94**		10		mg/L			04/27/22 22:24	1

General Chemistry (Continued)

Client Sample ID: MW20DD-220421
Date Collected: 04/21/22 07:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity	ND		10		mg/L			04/27/22 22:24	1
Total Organic Carbon - Average	**1.8**		1.0		mg/L			04/27/22 05:13	1

Surrogate Summary

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

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)										
280-161400-1	MW7-220420	118	101										
280-161400-2	MW5-220420	117	97										
280-161400-3	SW6-220420	115	91										
280-161400-4	SW4-220420	118	97										
280-161400-5	SW1-220420	118	108										
280-161400-6	SW7-220420	116	91										
280-161400-7	MW13D-220420	115	101										
280-161400-8	MW12I-220420	117	99										
280-161400-9	MW6-220420	117	91										
280-161400-10	MW14-220421	118	90										
280-161400-11	MW20DD-220421	115	100										
280-161400-12	TB1-220421	115	99										
480-197268-I-3 MS	Matrix Spike	105	81										
480-197268-I-3 MSD	Matrix Spike Duplicate	107	84										
LCS 480-624035/6	Lab Control Sample	107	103										
LCSD 480-624035/7	Lab Control Sample Dup	104	110										
MB 480-624035/9	Method Blank	112	101										

Surrogate Legend

DBFM = Dibromofluoromethane (Surr)
TBA = TBA-d9 (Surr)

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

Lab Sample ID: MB 480-624035/9
Matrix: Water
Analysis Batch: 624035

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			05/01/22 20:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*112*		*50 - 150*		*05/01/22 20:52*	*1*
TBA-d9 (Surr)	*101*		*50 - 150*		*05/01/22 20:52*	*1*

Lab Sample ID: LCS 480-624035/6
Matrix: Water
Analysis Batch: 624035

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	0.143		ug/L		71	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*107*		*50 - 150*
TBA-d9 (Surr)	*103*		*50 - 150*

Lab Sample ID: LCSD 480-624035/7
Matrix: Water
Analysis Batch: 624035

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	0.148		ug/L		74	50 - 150	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*104*		*50 - 150*
TBA-d9 (Surr)	*110*		*50 - 150*

Lab Sample ID: 480-197268-I-3 MS
Matrix: Water
Analysis Batch: 624035

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*105*		*50 - 150*
TBA-d9 (Surr)	*81*		*50 - 150*

Lab Sample ID: 480-197268-I-3 MSD
Matrix: Water
Analysis Batch: 624035

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

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*107*		*50 - 150*
TBA-d9 (Surr)	*84*		*50 - 150*

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 280-572917/1-A
Matrix: Water
Analysis Batch: 573194

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 572917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/26/22 10:05	04/27/22 15:22	1

Lab Sample ID: LCS 280-572917/2-A
Matrix: Water
Analysis Batch: 573194

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 572917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	40.0	41.8		ug/L		105	85 - 117

Lab Sample ID: MB 280-573064/1-A
Matrix: Water
Analysis Batch: 573292

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 573064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		04/27/22 09:33	04/28/22 09:33	1

Lab Sample ID: LCS 280-573064/2-A
Matrix: Water
Analysis Batch: 573292

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 573064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	40.0	35.4		ug/L		88	85 - 117

Lab Sample ID: 280-161320-D-8-B MS
Matrix: Water
Analysis Batch: 573194

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 572917

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	490		40.0	514	4	ug/L		56	85 - 117

Lab Sample ID: 280-161320-D-8-C MSD
Matrix: Water
Analysis Batch: 573194

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 572917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	490		40.0	537	4	ug/L		114	85 - 117	4	20

Lab Sample ID: 280-161333-A-2-D MS
Matrix: Water
Analysis Batch: 573226

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 573064

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Manganese	ND		40.0	41.0		ug/L		103	85 - 117

Lab Sample ID: 280-161333-A-2-E MSD
Matrix: Water
Analysis Batch: 573226

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 573064

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Manganese	ND		40.0	42.1		ug/L		105	85 - 117	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-573801/39
Matrix: Water
Analysis Batch: 573801

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			05/04/22 19:56	1
Sulfate	ND		5.0		mg/L			05/04/22 19:56	1

Lab Sample ID: MB 280-573801/6
Matrix: Water
Analysis Batch: 573801

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			05/04/22 11:22	1
Sulfate	ND		5.0		mg/L			05/04/22 11:22	1

Lab Sample ID: LCS 280-573801/37
Matrix: Water
Analysis Batch: 573801

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			100	102		mg/L		102	90 - 110		
Sulfate			100	102		mg/L		102	90 - 110		

Lab Sample ID: LCS 280-573801/4
Matrix: Water
Analysis Batch: 573801

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			100	99.7		mg/L		100	90 - 110		
Sulfate			100	99.9		mg/L		100	90 - 110		

Lab Sample ID: LCSD 280-573801/38
Matrix: Water
Analysis Batch: 573801

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	101		mg/L		101	90 - 110	1	10
Sulfate			100	102		mg/L		102	90 - 110	0	10

Lab Sample ID: LCSD 280-573801/5
Matrix: Water
Analysis Batch: 573801

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	99.8		mg/L		100	90 - 110	0	10
Sulfate			100	99.9		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-573801/3
Matrix: Water
Analysis Batch: 573801

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	4.72		mg/L		94	50 - 150		
Sulfate			5.00	ND		mg/L		89	50 - 150		

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 280-161400-3 MS
Matrix: Water
Analysis Batch: 573801

Client Sample ID: SW6-220420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.3		50.0	55.4		mg/L		104	80 - 120
Sulfate	ND		50.0	56.5		mg/L		104	80 - 120

Lab Sample ID: 280-161400-3 MSD
Matrix: Water
Analysis Batch: 573801

Client Sample ID: SW6-220420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.3		50.0	56.2		mg/L		106	80 - 120	2	20
Sulfate	ND		50.0	57.4		mg/L		106	80 - 120	2	20

Lab Sample ID: 280-161400-11 MS
Matrix: Water
Analysis Batch: 573801

Client Sample ID: MW20DD-220421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	3.9		50.0	56.4		mg/L		105	80 - 120
Sulfate	7.6		50.0	60.6		mg/L		106	80 - 120

Lab Sample ID: 280-161400-11 MSD
Matrix: Water
Analysis Batch: 573801

Client Sample ID: MW20DD-220421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	3.9		50.0	57.6		mg/L		107	80 - 120	2	20
Sulfate	7.6		50.0	61.8		mg/L		108	80 - 120	2	20

Lab Sample ID: 280-161400-3 DU
Matrix: Water
Analysis Batch: 573801

Client Sample ID: SW6-220420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	3.3		3.29		mg/L		0.2	15
Sulfate	ND		ND		mg/L		NC	15

Lab Sample ID: 280-161400-11 DU
Matrix: Water
Analysis Batch: 573801

Client Sample ID: MW20DD-220421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	3.9		3.94		mg/L		0.1	15
Sulfate	7.6		7.63		mg/L		0.05	15

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-573617/125
Matrix: Water
Analysis Batch: 573617

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			05/02/22 16:15	1

Lab Sample ID: MB 280-573617/90
Matrix: Water
Analysis Batch: 573617

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			05/02/22 14:41	1

Lab Sample ID: LCS 280-573617/124
Matrix: Water
Analysis Batch: 573617

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	2.51		mg/L		101	90 - 110

Lab Sample ID: LCS 280-573617/89
Matrix: Water
Analysis Batch: 573617

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	2.51		mg/L		101	90 - 110

Lab Sample ID: 280-161400-10 MS
Matrix: Water
Analysis Batch: 573617

Client Sample ID: MW14-220421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	ND	F2 F1	1.00	1.09		mg/L		109	90 - 110

Lab Sample ID: 280-161400-10 MSD
Matrix: Water
Analysis Batch: 573617

Client Sample ID: MW14-220421
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	F2 F1	1.00	1.59	F1 F2	mg/L		159	90 - 110	37	10

Lab Sample ID: 280-161400-11 MS
Matrix: Water
Analysis Batch: 573617

Client Sample ID: MW20DD-220421
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	1.09		mg/L		109	90 - 110

Lab Sample ID: 280-161400-11 MSD
Matrix: Water
Analysis Batch: 573617

Client Sample ID: MW20DD-220421
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	1.10		mg/L		110	90 - 110	1	10

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-574030/20
Matrix: Water
Analysis Batch: 574030

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			05/05/22 10:28	1

Lab Sample ID: LCS 280-574030/18
Matrix: Water
Analysis Batch: 574030

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	2.51		mg/L		101	90 - 110		

Lab Sample ID: LCSD 280-574030/19
Matrix: Water
Analysis Batch: 574030

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
Ammonia as N			2.50	2.54		mg/L		102	90 - 110	1	10

Lab Sample ID: 280-161400-1 MS
Matrix: Water
Analysis Batch: 574030

Client Sample ID: MW7-220420
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	1.02		mg/L		102	90 - 110		

Lab Sample ID: 280-161400-1 MSD
Matrix: Water
Analysis Batch: 574030

Client Sample ID: MW7-220420
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	0.985		mg/L		99	90 - 110	3	10

Lab Sample ID: 280-161400-7 MS
Matrix: Water
Analysis Batch: 574030

Client Sample ID: MW13D-220420
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	1.04		mg/L		104	90 - 110		

Lab Sample ID: 280-161400-7 MSD
Matrix: Water
Analysis Batch: 574030

Client Sample ID: MW13D-220420
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	1.02		mg/L		102	90 - 110	2	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-573241/58
Matrix: Water
Analysis Batch: 573241

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			04/27/22 16:57	1
Bicarbonate Alkalinity	ND		10		mg/L			04/27/22 16:57	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 16:57	1

Lab Sample ID: MB 280-573241/6
Matrix: Water
Analysis Batch: 573241

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			04/27/22 10:51	1
Bicarbonate Alkalinity	ND		10		mg/L			04/27/22 10:51	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 10:51	1

Lab Sample ID: MB 280-573241/84
Matrix: Water
Analysis Batch: 573241

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			04/27/22 20:23	1
Bicarbonate Alkalinity	ND		10		mg/L			04/27/22 20:23	1
Carbonate Alkalinity	ND		10		mg/L			04/27/22 20:23	1

Lab Sample ID: LCS 280-573241/83
Matrix: Water
Analysis Batch: 573241

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	202		mg/L		101	89 - 109		

Lab Sample ID: LCSD 280-573241/5
Matrix: Water
Analysis Batch: 573241

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
Total Alkalinity			200	199		mg/L		100	89 - 109	0	10

Lab Sample ID: 280-161362-A-4 DU
Matrix: Water
Analysis Batch: 573241

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Alkalinity	390			389		mg/L				0.3	10
Bicarbonate Alkalinity	390			389		mg/L				0.3	20
Carbonate Alkalinity	ND			ND		mg/L				NC	20

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

Lab Sample ID: MB 280-573105/21
Matrix: Water
Analysis Batch: 573105

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			04/26/22 20:52	1

Lab Sample ID: LCS 280-573105/20
Matrix: Water
Analysis Batch: 573105

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	25.9		mg/L		104	88 - 112		

Lab Sample ID: 280-161400-1 MS
Matrix: Water
Analysis Batch: 573105

Client Sample ID: MW7-220420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Organic Carbon - Average	1.8		25.0	26.8		mg/L		100	88 - 112		

Lab Sample ID: 280-161400-1 MSD
Matrix: Water
Analysis Batch: 573105

Client Sample ID: MW7-220420
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	1.8		25.0	27.0		mg/L		101	88 - 112	1	15

GC/MS VOA

Analysis Batch: 624035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Total/NA	Water	8260C SIM	
280-161400-2	MW5-220420	Total/NA	Water	8260C SIM	
280-161400-3	SW6-220420	Total/NA	Water	8260C SIM	
280-161400-4	SW4-220420	Total/NA	Water	8260C SIM	
280-161400-5	SW1-220420	Total/NA	Water	8260C SIM	
280-161400-6	SW7-220420	Total/NA	Water	8260C SIM	
280-161400-7	MW13D-220420	Total/NA	Water	8260C SIM	
280-161400-8	MW12I-220420	Total/NA	Water	8260C SIM	
280-161400-9	MW6-220420	Total/NA	Water	8260C SIM	
280-161400-10	MW14-220421	Total/NA	Water	8260C SIM	
280-161400-11	MW20DD-220421	Total/NA	Water	8260C SIM	
280-161400-12	TB1-220421	Total/NA	Water	8260C SIM	
MB 480-624035/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-624035/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-624035/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	
480-197268-I-3 MS	Matrix Spike	Total/NA	Water	8260C SIM	
480-197268-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C SIM	

Metals

Prep Batch: 572917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Dissolved	Water	3005A	
280-161400-2	MW5-220420	Dissolved	Water	3005A	
280-161400-3	SW6-220420	Dissolved	Water	3005A	
280-161400-4	SW4-220420	Dissolved	Water	3005A	
280-161400-5	SW1-220420	Dissolved	Water	3005A	
280-161400-6	SW7-220420	Dissolved	Water	3005A	
280-161400-7	MW13D-220420	Dissolved	Water	3005A	
MB 280-572917/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-572917/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-161320-D-8-B MS	Matrix Spike	Dissolved	Water	3005A	
280-161320-D-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 573064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-8	MW12I-220420	Dissolved	Water	3005A	
280-161400-9	MW6-220420	Dissolved	Water	3005A	
280-161400-10	MW14-220421	Dissolved	Water	3005A	
280-161400-11	MW20DD-220421	Dissolved	Water	3005A	
MB 280-573064/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-573064/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-161333-A-2-D MS	Matrix Spike	Dissolved	Water	3005A	
280-161333-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Analysis Batch: 573166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Dissolved	Water	6020	572917
280-161400-2	MW5-220420	Dissolved	Water	6020	572917
280-161400-3	SW6-220420	Dissolved	Water	6020	572917
280-161400-4	SW4-220420	Dissolved	Water	6020	572917

Metals (Continued)

Analysis Batch: 573166 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-5	SW1-220420	Dissolved	Water	6020	572917
280-161400-6	SW7-220420	Dissolved	Water	6020	572917
280-161400-7	MW13D-220420	Dissolved	Water	6020	572917

Analysis Batch: 573194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-572917/1-A	Method Blank	Total Recoverable	Water	6020	572917
LCS 280-572917/2-A	Lab Control Sample	Total Recoverable	Water	6020	572917
280-161320-D-8-B MS	Matrix Spike	Dissolved	Water	6020	572917
280-161320-D-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020	572917

Analysis Batch: 573226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161333-A-2-D MS	Matrix Spike	Dissolved	Water	6020	573064
280-161333-A-2-E MSD	Matrix Spike Duplicate	Dissolved	Water	6020	573064

Analysis Batch: 573292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-8	MW12I-220420	Dissolved	Water	6020	573064
280-161400-9	MW6-220420	Dissolved	Water	6020	573064
280-161400-10	MW14-220421	Dissolved	Water	6020	573064
280-161400-11	MW20DD-220421	Dissolved	Water	6020	573064
MB 280-573064/1-A	Method Blank	Total Recoverable	Water	6020	573064
LCS 280-573064/2-A	Lab Control Sample	Total Recoverable	Water	6020	573064

General Chemistry

Analysis Batch: 573105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Total/NA	Water	SM 5310B	
280-161400-2	MW5-220420	Total/NA	Water	SM 5310B	
280-161400-3	SW6-220420	Total/NA	Water	SM 5310B	
280-161400-4	SW4-220420	Total/NA	Water	SM 5310B	
280-161400-5	SW1-220420	Total/NA	Water	SM 5310B	
280-161400-6	SW7-220420	Total/NA	Water	SM 5310B	
280-161400-7	MW13D-220420	Total/NA	Water	SM 5310B	
280-161400-8	MW12I-220420	Total/NA	Water	SM 5310B	
280-161400-9	MW6-220420	Total/NA	Water	SM 5310B	
280-161400-10	MW14-220421	Total/NA	Water	SM 5310B	
280-161400-11	MW20DD-220421	Total/NA	Water	SM 5310B	
MB 280-573105/21	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-573105/20	Lab Control Sample	Total/NA	Water	SM 5310B	
280-161400-1 MS	MW7-220420	Total/NA	Water	SM 5310B	
280-161400-1 MSD	MW7-220420	Total/NA	Water	SM 5310B	

Analysis Batch: 573241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Total/NA	Water	SM 2320B	
280-161400-2	MW5-220420	Total/NA	Water	SM 2320B	
280-161400-3	SW6-220420	Total/NA	Water	SM 2320B	
280-161400-4	SW4-220420	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 573241 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-5	SW1-220420	Total/NA	Water	SM 2320B	
280-161400-6	SW7-220420	Total/NA	Water	SM 2320B	
280-161400-7	MW13D-220420	Total/NA	Water	SM 2320B	
280-161400-8	MW12I-220420	Total/NA	Water	SM 2320B	
280-161400-9	MW6-220420	Total/NA	Water	SM 2320B	
280-161400-10	MW14-220421	Total/NA	Water	SM 2320B	
280-161400-11	MW20DD-220421	Total/NA	Water	SM 2320B	
MB 280-573241/58	Method Blank	Total/NA	Water	SM 2320B	
MB 280-573241/6	Method Blank	Total/NA	Water	SM 2320B	
MB 280-573241/84	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-573241/83	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-573241/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-161362-A-4 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 573617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-2	MW5-220420	Total/NA	Water	350.1	
280-161400-3	SW6-220420	Total/NA	Water	350.1	
280-161400-8	MW12I-220420	Total/NA	Water	350.1	
280-161400-9	MW6-220420	Total/NA	Water	350.1	
280-161400-10	MW14-220421	Total/NA	Water	350.1	
280-161400-11	MW20DD-220421	Total/NA	Water	350.1	
MB 280-573617/125	Method Blank	Total/NA	Water	350.1	
MB 280-573617/90	Method Blank	Total/NA	Water	350.1	
LCS 280-573617/124	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-573617/89	Lab Control Sample	Total/NA	Water	350.1	
280-161400-10 MS	MW14-220421	Total/NA	Water	350.1	
280-161400-10 MSD	MW14-220421	Total/NA	Water	350.1	
280-161400-11 MS	MW20DD-220421	Total/NA	Water	350.1	
280-161400-11 MSD	MW20DD-220421	Total/NA	Water	350.1	

Analysis Batch: 573801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Total/NA	Water	300.0	
280-161400-2	MW5-220420	Total/NA	Water	300.0	
280-161400-3	SW6-220420	Total/NA	Water	300.0	
280-161400-4	SW4-220420	Total/NA	Water	300.0	
280-161400-5	SW1-220420	Total/NA	Water	300.0	
280-161400-6	SW7-220420	Total/NA	Water	300.0	
280-161400-7	MW13D-220420	Total/NA	Water	300.0	
280-161400-8	MW12I-220420	Total/NA	Water	300.0	
280-161400-9	MW6-220420	Total/NA	Water	300.0	
280-161400-10	MW14-220421	Total/NA	Water	300.0	
280-161400-11	MW20DD-220421	Total/NA	Water	300.0	
MB 280-573801/39	Method Blank	Total/NA	Water	300.0	
MB 280-573801/6	Method Blank	Total/NA	Water	300.0	
LCS 280-573801/37	Lab Control Sample	Total/NA	Water	300.0	
LCS 280-573801/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-573801/38	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 280-573801/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-573801/3	Lab Control Sample	Total/NA	Water	300.0	

General Chemistry (Continued)

Analysis Batch: 573801 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-3 MS	SW6-220420	Total/NA	Water	300.0	
280-161400-3 MSD	SW6-220420	Total/NA	Water	300.0	
280-161400-11 MS	MW20DD-220421	Total/NA	Water	300.0	
280-161400-11 MSD	MW20DD-220421	Total/NA	Water	300.0	
280-161400-3 DU	SW6-220420	Total/NA	Water	300.0	
280-161400-11 DU	MW20DD-220421	Total/NA	Water	300.0	

Analysis Batch: 574030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-161400-1	MW7-220420	Total/NA	Water	350.1	
280-161400-4	SW4-220420	Total/NA	Water	350.1	
280-161400-5	SW1-220420	Total/NA	Water	350.1	
280-161400-6	SW7-220420	Total/NA	Water	350.1	
280-161400-7	MW13D-220420	Total/NA	Water	350.1	
MB 280-574030/20	Method Blank	Total/NA	Water	350.1	
LCS 280-574030/18	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-574030/19	Lab Control Sample Dup	Total/NA	Water	350.1	
280-161400-1 MS	MW7-220420	Total/NA	Water	350.1	
280-161400-1 MSD	MW7-220420	Total/NA	Water	350.1	
280-161400-7 MS	MW13D-220420	Total/NA	Water	350.1	
280-161400-7 MSD	MW13D-220420	Total/NA	Water	350.1	

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Client Sample ID: MW7-220420
Date Collected: 04/20/22 09:10
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-1
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	624035	05/01/22 22:16	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 18:46	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 15:40	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	574030	05/05/22 10:30	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:15	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 01:08	ABW	TAL DEN

Client Sample ID: MW5-220420
Date Collected: 04/20/22 10:40
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-2
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	624035	05/01/22 22:44	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 18:50	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 15:55	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	573617	05/02/22 15:40	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:20	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 02:24	ABW	TAL DEN

Client Sample ID: SW6-220420
Date Collected: 04/20/22 13:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-3
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	624035	05/01/22 23:12	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 18:54	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 16:10	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	573617	05/02/22 14:55	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:26	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 02:40	ABW	TAL DEN

Client Sample ID: SW4-220420
Date Collected: 04/20/22 13:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-4
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	624035	05/01/22 23:40	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 18:57	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 17:10	RAF	TAL DEN

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Client Sample ID: SW4-220420
Date Collected: 04/20/22 13:00
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-4
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	574030	05/05/22 10:48	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:32	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 02:55	ABW	TAL DEN

Client Sample ID: SW1-220420
Date Collected: 04/20/22 14:50
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-5
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	624035	05/02/22 00:08	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 19:01	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 17:56	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	574030	05/05/22 11:12	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:50	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 03:11	ABW	TAL DEN

Client Sample ID: SW7-220420
Date Collected: 04/20/22 16:05
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-6
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	624035	05/02/22 00:36	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 19:04	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 18:11	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	574030	05/05/22 11:14	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 21:56	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 03:25	ABW	TAL DEN

Client Sample ID: MW13D-220420
Date Collected: 04/20/22 13:25
Date Received: 04/22/22 11:00

Lab Sample ID: 280-161400-7
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	624035	05/02/22 01:04	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	572917	04/26/22 10:05	PFM	TAL DEN
Dissolved	Analysis	6020		1			573166	04/26/22 19:08	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 18:26	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	574030	05/05/22 11:06	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 22:01	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 03:39	ABW	TAL DEN

Client Sample ID: MW12I-220420

Lab Sample ID: 280-161400-8

Date Collected: 04/20/22 14:45

Matrix: Water

Date Received: 04/22/22 11:00

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	624035	05/02/22 01:32	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	573064	04/27/22 09:33	MB	TAL DEN
Dissolved	Analysis	6020		1			573292	04/28/22 09:41	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 18:41	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	573617	05/02/22 15:08	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 22:07	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 03:54	ABW	TAL DEN

Client Sample ID: MW6-220420

Lab Sample ID: 280-161400-9

Date Collected: 04/20/22 16:50

Matrix: Water

Date Received: 04/22/22 11:00

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	624035	05/02/22 02:00	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	573064	04/27/22 09:33	MB	TAL DEN
Dissolved	Analysis	6020		1			573292	04/28/22 09:45	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 18:56	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	573617	05/02/22 15:27	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 22:13	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 04:08	ABW	TAL DEN

Client Sample ID: MW14-220421

Lab Sample ID: 280-161400-10

Date Collected: 04/21/22 08:20

Matrix: Water

Date Received: 04/22/22 11:00

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	624035	05/02/22 02:28	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	573064	04/27/22 09:33	MB	TAL DEN
Dissolved	Analysis	6020		1			573292	04/28/22 09:49	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/04/22 19:11	RAF	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	573617	05/02/22 16:17	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 22:19	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 04:24	ABW	TAL DEN

Client Sample ID: MW20DD-220421

Lab Sample ID: 280-161400-11

Date Collected: 04/21/22 07:00

Matrix: Water

Date Received: 04/22/22 11:00

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	624035	05/02/22 02:56	CDC	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	573064	04/27/22 09:33	MB	TAL DEN
Dissolved	Analysis	6020		1			573292	04/28/22 09:53	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	573801	05/05/22 02:25	RAF	TAL DEN

Lab Chronicle

Client: Aspect Consulting
Project/Site: Hansville Landfill

Job ID: 280-161400-1

Client Sample ID: MW20DD-220421

Lab Sample ID: 280-161400-11

Date Collected: 04/21/22 07:00

Matrix: Water

Date Received: 04/22/22 11:00

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	573617	05/02/22 15:32	MMP	TAL DEN
Total/NA	Analysis	SM 2320B		1			573241	04/27/22 22:24	KEG	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	573105	04/27/22 05:13	ABW	TAL DEN

Client Sample ID: TB1-220421

Lab Sample ID: 280-161400-12

Date Collected: 04/20/22 09:10

Matrix: Water

Date Received: 04/22/22 11:00

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	624035	05/02/22 03:24	CDC	TAL BUF

Laboratory References:

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

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

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

Analytical Resources, LLC
Analytical Chemists and Consultants

10 May 2022

Betsy Sara
Eurofins - Test America - Denver
4955 Yarrow Street
Arvada, CO 80002

RE: Hansville (28006013-2Q/3Q/4Q Sampling)

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)
22D0347	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

Shelly Fishel, Project Manager

Cert# 100006-012

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

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

22D0347

Chain of Custody Record

1.2°

eurofins | Environment Testing TestAmerica

Client Information	Sampler: CB+CMT+APV	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-23414-6845.1
Client Contact: Mariani Lavier Kamahao	Phone: 2064135408	E-Mail: Betsy.Sara@Eurofinset.com		Page:
Company: Aspect Consulting, LLC				Job #:
Address: 350 Madison Ave N	Due Date Requested:			
City: Bainbridge Island	TAT Requested (days):			
State, Zip: WA, 98110				
Phone:	PO #: Purchase Order not required			
Email: mkamahao@aspectconsulting.com	WO #:			
Project Name: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q/3Q/4Q Sampling			
Site: Washington	SSOW#:			

Analysis Requested

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)	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/Cl/SO4	Ortho-phosphate (field filtered)- direct sub to ARI	Dissolved Arsenice - direct sub to ARI	Nitrate/Nitrite (IC) - direct sub to ARI	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	A	D	S	N	N	D	N	X	
MW-7-220420	4/20/22	0910		W							X	X	X		
MW-5-220420		1040													
SW-6-220420		1350													Diss As,NO3,NO2,o-phos subbed direct to ARI
SW-4-220420		1300													
SW-1-220420		1450													
SW-7-220420		1605													
MW-13D-220420		1325													
MW-12I-220420		1445													
MW-6-220420	↓	1650													
MW-14-220421	4/21/22	0820													
MW-20DD-220421	↓	0700													

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:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:	Date/Time: 4/21/22 1316	Company Aspect	Received by:	Date/Time: 04/21/20/22 1316	Company 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 35 of 73

5/26/2022

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-7-220420	22D0347-01	Water	20-Apr-2022 09:10	21-Apr-2022 13:16
MW-5-220420	22D0347-02	Water	20-Apr-2022 10:40	21-Apr-2022 13:16
SW-6-220420	22D0347-03	Water	20-Apr-2022 13:50	21-Apr-2022 13:16
SW-4-220420	22D0347-04	Water	20-Apr-2022 13:00	21-Apr-2022 13:16
SW-1-220420	22D0347-05	Water	20-Apr-2022 14:50	21-Apr-2022 13:16
SW-7-220420	22D0347-06	Water	20-Apr-2022 16:05	21-Apr-2022 13:16
MW-13D-220420	22D0347-07	Water	20-Apr-2022 13:25	21-Apr-2022 13:16
MW-12I-220420	22D0347-08	Water	20-Apr-2022 14:45	21-Apr-2022 13:16
MW-6-220420	22D0347-09	Water	20-Apr-2022 16:50	21-Apr-2022 13:16
MW-14-220421	22D0347-10	Water	21-Apr-2022 08:20	21-Apr-2022 13:16
MW-20DD-220421	22D0347-11	Water	21-Apr-2022 07:00	21-Apr-2022 13:16

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

Work Order Case Narrative

Client: Eurofins - Test America - Denver
Project: Hansville
Project Number: 28006013-2Q/3Q/4Q Sampling
Work Order: 22D0347

Sample receipt

Sample(s) as listed on the preceding page were received 21-Apr-2022 13:16 under ARI work order 22D0347. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Dissolved Metals - EPA Method 200.8

The sample(s) were digested 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.

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 duplicate (DUP) relative percent difference (RPD) were within advisory control limits. The matrix spike (MS) percent recoveries were within advisory control limits except Orthophosphorus which was out of control low and has been flagged.

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Aspect / Eurofins Test America Denver

Project Name: Hansville Landfill

COC No(s): NA

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

Assigned ARI Job No: 22D0347

Tracking No: NA

Preliminary Examination Phase:

Question		
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 1316 1.2

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: J009708

Cooler Accepted by: [signature] Date: 04/21/2022 Time: 1316

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO (1)

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

Question			
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: [signature] Date: 04/21/2022 Time: 1446 Labels checked by: SLF

***** 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:

(1) yes SLF 04/21/2022

WORK ORDER

22D0347

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 **Project Number:** 28006013-2Q/3Q/4Q Sampling

Preservation Confirmation

Container ID	Container Type	pH
22D0347-01 A	Miscellaneous Container	FF
22D0347-01 B	Miscellaneous Container	
22D0347-01 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-02 A	Miscellaneous Container	FF
22D0347-02 B	Miscellaneous Container	
22D0347-02 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-03 A	Miscellaneous Container	FF
22D0347-03 B	Miscellaneous Container	
22D0347-03 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-04 A	Miscellaneous Container	FF
22D0347-04 B	Miscellaneous Container	
22D0347-04 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-05 A	Miscellaneous Container	FF
22D0347-05 B	Miscellaneous Container	
22D0347-05 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-06 A	Miscellaneous Container	FF
22D0347-06 B	Miscellaneous Container	
22D0347-06 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-07 A	Miscellaneous Container	FF
22D0347-07 B	Miscellaneous Container	
22D0347-07 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-08 A	Miscellaneous Container	FF
22D0347-08 B	Miscellaneous Container	
22D0347-08 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-09 A	Miscellaneous Container	FF
22D0347-09 B	Miscellaneous Container	
22D0347-09 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-10 A	Miscellaneous Container	FF
22D0347-10 B	Miscellaneous Container	
22D0347-10 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass
22D0347-11 A	Miscellaneous Container	FF
22D0347-11 B	Miscellaneous Container	
22D0347-11 C	Miscellaneous container, 1:1 HN03 (FF)	<2 pass

Reviewed By

04/21/2022
Date

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-7-220420

22D0347-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 09:10

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 00:49

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-01 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	1.19	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-7-220420

22D0347-01 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 09:10

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 18:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-01 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.209	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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	0.12	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-5-220420

22D0347-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 10:40

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 00:53

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-02 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	1.79	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-5-220420

22D0347-02 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 10:40

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 19:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-02 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	2.35	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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	0.10	mg-P/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-6-220420

22D0347-03 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 13:50

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 00:56

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-03 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	2.59	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-6-220420

22D0347-03 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 13:50

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 19:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-03 A

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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-4-220420

22D0347-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 13:00

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 01:54

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-04 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	1.82	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-4-220420

22D0347-04 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 13:00

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 20:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-04 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.782	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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-1-220420

22D0347-05 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 14:50

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 01:58

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-05 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	0.943	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-1-220420

22D0347-05 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 14:50

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 21:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-05 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	3.57	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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-7-220420

22D0347-06 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 16:05

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:01

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-06 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	1.43	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

SW-7-220420

22D0347-06 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 16:05

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 21:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-06 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	0.960	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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-13D-220420

22D0347-07 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 13:25

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:16

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-07 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	5.35	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-13D-220420

22D0347-07 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 13:25

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 21:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-07 A

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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-12I-220420

22D0347-08 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 14:45

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-08 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	2.47	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-12I-220420

22D0347-08 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 14:45

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 22:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-08 A

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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-6-220420

22D0347-09 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/20/2022 16:50

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-09 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	1.72	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-6-220420

22D0347-09 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/20/2022 16:50

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 22:23

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-09 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N	14797-55-8	1	0.100	0.100	4.86	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	0.320	mg/L	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-14-220421

22D0347-10 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/21/2022 08:20

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:27

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-10 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	14.1	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-14-220421

22D0347-10 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/21/2022 08:20

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 22:43

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-10 A

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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-20DD-220421

22D0347-11 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 UCT-KED — Sampled: 04/21/2022 07:00

Instrument: ICPMS1 Analyst: SKD — Analyzed: 05/10/2022 02:30

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 22D0347-11 C 01

Preparation Batch: BKE0066 — Sample Size: 25 mL

Prepared: 05/03/2022 — 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	14.7	ug/L	

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

MW-20DD-220421

22D0347-11 (Water)

Wet Chemistry

Method: EPA 300.0 — Sampled: 04/21/2022 07:00

Instrument: IC930 Analyst: BF — Analyzed: 04/21/2022 23:03

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: No Prep Wet Chem; Preparation Batch: BKD0658; Prepared: 04/21/2022; Sample Size: 10 mL; Final Volume: 10 mL — Extract ID: 22D0347-11 A

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

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Orthophosphorus	1426-44-42	1	0.10	0.10	ND	mg-P/L	U

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BKE0066 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS1 Analyst: SKD

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKE0066-BLK1)						Prepared: 03-May-2022 Analyzed: 10-May-2022 00:42						
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BKE0066-BS1)						Prepared: 03-May-2022 Analyzed: 10-May-2022 00:46						
Arsenic, Dissolved	75a	25.6	0.0373	0.200	ug/L	25.0		103	80-120			

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

Analysis by: Analytical Resources, LLC

Wet Chemistry - Quality Control

Batch BKD0658 - No Prep Wet Chem

Instrument: IC930 Analyst: BF

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKD0658-BLK1)				Prepared: 21-Apr-2022 Analyzed: 21-Apr-2022 17:43							
Nitrate-N	ND	0.100	0.100	mg/L							U
Nitrite-N	ND	0.100	0.100	mg/L							U
Orthophosphorus	ND	0.10	0.10	mg-P/L							U
LCS (BKD0658-BS1)				Prepared: 21-Apr-2022 Analyzed: 21-Apr-2022 18:03							
Nitrate-N	5.08	0.100	0.100	mg/L	5.00		102	90-110			
Nitrite-N	5.14	0.100	0.100	mg/L	5.00		103	90-110			
Orthophosphorus	4.58	0.10	0.10	mg-P/L	5.00		91.6	90-110			
Duplicate (BKD0658-DUP1)		**Source: 22D0347-01**		Prepared: 21-Apr-2022 Analyzed: 21-Apr-2022 18:43							
Nitrate-N	0.196	0.100	0.100	mg/L		0.209			6.42	20	
Nitrite-N	ND	0.100	0.100	mg/L		ND					U
Orthophosphorus	ND	0.10	0.10	mg-P/L		0.12					U
Matrix Spike (BKD0658-MS1)		**Source: 22D0347-01**		Prepared: 21-Apr-2022 Analyzed: 21-Apr-2022 19:03							
Nitrate-N	2.20	0.100	0.100	mg/L	2.00	0.209	99.7	75-125			
Nitrite-N	1.74	0.100	0.100	mg/L	2.04	ND	85.3	75-125			
Orthophosphorus	1.27	0.10	0.10	mg-P/L	2.00	0.12	57.2	75-125			*

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

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

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
Orthophosphorus	DoD-ELAP,WADOE,WA-DW,NELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2022
WADOE	WA Dept of Ecology	C558	06/30/2022
WA-DW	Ecology - Drinking Water	C558	06/30/2022

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: 28006013-2Q/3Q/4Q Sampling	**Reported:**
Arvada CO, 80002	Project Manager: Betsy Sara	10-May-2022 20:16

Notes and Definitions

*	Flagged value is not within established control limits.
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 TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

eurofins TA Environment Testing TestAmerica

Client Information	Sampler: Chelsea Bish/Ashley Rasso	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-23414-6845.1
Client Contact: Meilan Lanier - Kamaka'o	Phone: 206-413-5408	E-Mail: Betsy.Sara@Eurofinset.com		Page:
Company: Aspect Consulting, LLC				Job #:
Address: 350 Madison Ave N	Due Date Requested:			
City: Bainbridge Island	TAT Requested (days):			
State, Zip: WA, 98110				
Phone:	PO #: Purchase Order not required			
Email: mlkamakaoa@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	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	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)	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/Cl/SO4	Ortho-phosphate (field filtered)- direct sub to ARI	Dissolved Arsenice - direct sub to ARI	Nitrate/Nitrite (IC) - direct sub to ARI	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	D	S	N	N	D	N		
MW-7-220420	4/20/22	0910		W			X	X	X	X					
MW-5-220420		1040													
SW-6-220420		1350													Diss As,NO3,NO2,o-phos subbed direct to ARI
SW-4-220420		1300													
SW-1-220420		~~1455~~ 1402													
SW-7-220420		1605													
MW-13D-220420		1325													
MW-12I-220420		1445													
MW-6-220420		1650													
MW-14-220421	4/21/22	0820													
MW-20D-220421		0700													

280-161400 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ 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
1		4/21/22 1057			4/22/22 1105	EA/DEN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.: 1984918	Cooler Temperature(s) °C and Other Remarks: 0.5, 0.3 IR11 CF-0.1

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

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: CB/APW/CMT	Lab PM: Sara, Betsy A	Carrier Tracking No(s):	COC No: 280-23414-6845.1
Client Contact: Meilani Lanier-Kamahaʻo	Phone: 206-413-5408	E-Mail: Betsy.Sara@Eurofinset.com		Page:
Company: Aspect Consulting, LLC				Job #:
Address: 350 Madison Ave N	Due Date Requested:			
City: Bainbridge Island	TAT Requested (days):			
State, Zip: WA, 98110				
Phone:	PO #: Purchase Order not required			
Email: mlkamahao@aspectconsulting.com	WO #:			
Project Name: Hansville Landfill	Project #:skip sites/events 28006013 - 2Q/3Q/4Q Sampling			
Site: Washington	SSOW#:			

Analysis Requested

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)	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/Cl/SO4	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:				A	D	S	N	N	D	N		
~~Trip Blank~~															
TBI-220421	—	—		AQ			X								
															Diss As,NO3,NO2,o-phos subbed direct to ARI

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

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:	4/21/22 1057			4/22/22 1100	EAT/OGL
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:

5/26/2022

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EUROFINS TEST AMERICA
4955 YARROW ST
ARVADA, CO 80002
(303) 736-0100

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Next business morning by 10:30 a.m. Not available to all locations. Please consult the current FedEx Service Guide for complements.

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280-161400 Waybill

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ORIGIN ID:HFIA

SHIP DATE: 21APR22
ACTWGT: 54.25 LB
CAD: 7855E2300
DIMS: 27x14x14 IN

TO SAMPLE RECIEVING
EUROFINS TESTING AMERICA
4955 YARROW ST
ARVADA CO 80002
(303) 736-0100

INV:
PO:
REF:
DEPT:

(US)

Part # 156297-435 RRDW EXP 10/22

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Saturday delivery available.

1 From See optional release signature below.

ORDER: 00859798

DECLARED VALUE $100

PACKAGE WEIGHT

( ) ___ - ___

2 To Shipment will not be accepted if address below is altered.

SAMPLE RECEIVING
EUROFINS TEST AMERICA
4955 YARROW ST
ARVADA, CO 80002
(303) 736-0100

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.

NONNEGOTIABLE

Please see back for declared value information and important terms and conditions.

SATURDAY DELIVERY

Shipments tendered on Friday are delivered on Saturday to most locations.

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Sign within this area. Please do not obstruct.

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.

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Employee Number | Base Charges | Other | Total Charges

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-611874.1
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 #: 280-161400-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 5/5/2022			
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:

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

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:						
MW7-220420 (280-161400-1)	4/20/22	09:10 Pacific		Water			X	3	
MW5-220420 (280-161400-2)	4/20/22	10:40 Pacific		Water			X	3	
SW6-220420 (280-161400-3)	4/20/22	13:50 Pacific		Water			X	3	
SW4-220420 (280-161400-4)	4/20/22	13:00 Pacific		Water			X	3	
SW1-220420 (280-161400-5)	4/20/22	14:50 Pacific		Water			X	3	
SW7-220420 (280-161400-6)	4/20/22	16:05 Pacific		Water			X	3	
MW13D-220420 (280-161400-7)	4/20/22	13:25 Pacific		Water			X	3	
MW12I-220420 (280-161400-8)	4/20/22	14:45 Pacific		Water			X	3	
MW6-220420 (280-161400-9)	4/20/22	16:50 Pacific		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

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) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Mackl Davis	Date/Time: 4/26/22 1530	Company: ETA DEN	Received by: [illegible]	Date/Time: 4/28/22 1000 Company: ETA
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: 4.7 # ICE

Ver: 06/08/2021

5/26/2022

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Collins, Janice S	Carrier Tracking No(s):	COC No: 280-611874.2
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 #: 280-161400-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 5/5/2022			
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:

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, Z - other (specify)

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:						
MW14-220421 (280-161400-10)	4/21/22	08:20 Pacific		Water			X	3	
MW20DD-220421 (280-161400-11)	4/21/22	07:00 Pacific		Water			X	3	
TB1-220421 (280-161400-12)	4/20/22	09:10 Pacific		Water			X	3	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 complicance 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: 4/26/22 1530	Company ETAOEN	Received by: pgt	Date/Time:	Company
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: 280-161400-1

Login Number: 161400
List Number: 1
Creator: Kazenga, Oliver M

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.	False	Refer to job narrative for details
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: 280-161400-1

Login Number: 161400
List Number: 2
Creator: Kolb, Chris M

List Source: Eurofins Buffalo
List Creation: 04/29/22 04:45 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	4.7 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	