

November 24, 2021

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

### Re: Third Quarter 2021 Environmental Monitoring Report Hansville Landfill, Kitsap County, Washington Project No. 160423-A-05-05.1

Dear Alexis:

This quarterly report summarizes the results of environmental monitoring conducted at the Hansville Landfill (Site) during the third quarter of 2021, 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 2021 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 (SCS, 2011), 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 2021

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 2021 is provided below:

- On July 21, Aspect completed groundwater and surface water sampling in accordance with the Compliance Monitoring Plan (SCS, 2011).
- On August 2, Aspect implemented extraction wellhead improvements to reduce leakage and improve vacuum and landfill gas collection.
- On August 10, Kitsap County crews pumped out the condensate tank and western sump; Aspect was on the Site to observe the work.
- On August 19, Aspect conducted monthly performance monitoring of the blower system and condensate management system. Maintenance activities included replacement of the condensate pump.
- On September 16, Aspect conducted landfill gas monitoring in accordance with the Compliance Monitoring Plan (SCS, 2011) 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 optimize landfill gas collection. Maintenance activities included final modifications of the landfill gas wellheads to improve vacuum distribution across the wellfield.

Collection of landfill gas samples is ongoing, and results of the air quality analysis will be presented in a separate document at the completion of the work, anticipated for later this year.

## Deviations from the Compliance Monitoring Plan

There were no deviations from the Compliance Monitoring Plan (SCS, 2011) during the third quarter 2021 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 and system vacuum at the blower on July 21, August 19, and September 16, 2021. Aspect monitored landfill gas concentrations, vacuum, and flow at the extraction wells and compliance monitoring probes on September 16, 2021.

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

- Landfill gas composition measurements included methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>), oxygen (O<sub>2</sub>), and balance gas (Balance) concentrations.
- Collection system pressure measurements included the static pressure measured before and after any valve adjustments, 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 16, 2021, observed conditions remained within the normal range. At the blower inlet, methane and carbon dioxide concentrations were approximately 5.9 percent by volume and 15.3 percent by volume, respectively. The oxygen concentration was approximately 2.9 percent by volume. The flow rate was approximately 75 standard cubic feet per minute (scfm) with a system vacuum of 6.5 inches water column.

On August 10, 2021, an Aspect representative observed a crew from Kitsap County Public Works remove condensate from the 2,000-gallon condensate storage tank inside the flare compound and the western sump. Approximately 1,200 gallons were removed from the condensate storage tank and 1,350 gallons were removed from the western condensate sump.

Reduced vacuum was observed in the south and east portion of the wellfield. Measurements taken in the second quarter 2021 revealed about a 3.5-inch differential in vacuum across the well field, with the likely cause identified as blockages in the perimeter header. This condition was also observed during the third quarter 2021 before and after the western condensate sump was emptied. Based on observed conditions, alternative methods to address vacuum loss across the wellfield include:

• Inspect the perimeter header for blockages and remove blockages or replace blocked portions of the perimeter header.

• At the center of the wellfield, connect the north and/or west lateral to the south and east lateral to convey vacuum and landfill gas. Condensate would continue to drain to the perimeter header.

Landfill gas wellfield monitoring and tuning is conducted on a quarterly basis, during the third month of the quarter (March, June, September, December). Wellfield optimization will continue to focus on maximizing methane and carbon dioxide collection rates. Monthly Site visits include monitoring the flare inlet and condensate management system, and visual inspection of the wellfield. If flare inlet readings are outside the normal range, then troubleshooting measures may include wellfield monitoring and tuning. Any damaged wellheads or wellheads with sagging flexible hose will be repaired to maintain optimal landfill gas system performance.

The condensate collection rates have ranged between 0 and 100 gallons per month, since installation in December 2018. The condensate storage tank was emptied (approximately 1,200 gallons) for the first time in August 2021. The volume of condensate in the tank at the end of the third quarter was less than 200 gallons.

# Explosive Gas Control

Methane was not detected in any of the compliance gas probes during the compliance monitoring event on September 16, 2021. 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 0.5 to 2.4 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 21, 2021. 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 2021 were consistent with those observed during previous monitoring events. Groundwater surface elevations were calculated using water levels measured July 21, 2021 (see Table B-1). Groundwater elevations ranged from 237.7 feet North American Vertical Datum of 1988 (NAVD88) in MW-12I to 266.0 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, consistent with historical observations. Groundwater gradients ranged from 0.007 feet over feet (feet/feet) in the upgradient areas, to 0.014 feet/feet further 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 2021 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 Sitespecific cleanup level of 0.005 milligrams per liter (mg/L) at all monitoring wells except MW-14

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(0.014 mg/L) and MW-13D (0.00562 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 (ug/L) at all monitoring wells, except MW-6 (0.056 ug/L), MW-12I (0.11 ug/L), and MW-14 (0.052 ug/L), consistent with historical results.

Surface water quality results from the third quarter 2021 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 ug/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 have gradually increased to exceed the cleanup level, doing so for the first time in the second quarter 2020. This increasing trend is evaluated and discussed in the following section. Dissolved arsenic concentrations at MW-14 have historically exceeded the Site-specific cleanup level and have been decreasing steadily over time.

Figure C-2 shows vinyl chloride concentrations in groundwater have been less than the cleanup level of 0.025 ug/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 steadily decreasing over time. Variability in rates of decreasing concentrations is attributed to inconsistent landfill gas collection system performance, which is actively monitored and being corrected through wellhead maintenance.

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 1.5 to 8 years. If 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 ug/L (Ecology, 2016) for more than

10 years. The projected restoration time frame 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.

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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 but remain below the regional natural background value provided by Ecology (Ecology, 2016; Ecology, 2021), as shown on Figure C-3. The statistical trend analysis for dissolved arsenic concentrations in MW-13D was first conducted as part of the "2019 Annual Environmental Monitoring Report" (Aspect, 2020) and included an evaluation of potential sources. 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 due to the timing and nature of concentration changes. Dissolved arsenic concentrations in MW-13D and other locations will 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.<sup>1</sup> 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 (SCS, 2011) 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 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 minimize geochemically mediated effects on groundwater.

<sup>&</sup>lt;sup>1</sup> Sen's slope values reflect the median of the slopes of historical data pairs, and were provided in units of  $\mu g/L$  per day in reports by SCS through 2016. Starting in 2017, Sen's slope values are provided in units of  $\mu g/L$  per year, to support interpretation. For comparison, Table C-1 provides Sen's slope values for both units.

# 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), 2021, Natural Background Groundwater Arsenic Concentrations in Washington State, Ecology Publication No. 14-09-044, Draft for Public Comment, July 2021.

# 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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Project No. 160423-A-05-05.1

Sincerely,

ASPECt consulting, LLC



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- 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, Roma Call, and Paul McCollum, Port Gamble S'Klallam Tribe

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# ATTACHMENT A

Landfill Gas Data

### Table A-1. Landfill Gas Data, Third Quarter, 2021

Project No. 160423, Hansville Landfill, Hansville, WA

			Methane	Carbon Dioxide	Oxygen	Hydrogen Sulfide	Balance		Pressure		nperature		w Rate
			CH₄	CO <sub>2</sub>	O <sub>2</sub>	H₂S	Bal	· ·	$H_2O$		rees F)		CFM)
Location	Device ID	Date/Time	(% by vol)	(% by vol)	(% by vol)	(% by vol)	(% by vol)	Initial	Adjusted	Initial	Adjusted	Initial	Adjusted
Blower Inlet	HANSBLIN	9/16/21 9:38	5.9	15.3	2.9	10	75.9	-6.4	-6.4	64.5	64.6	75.1	74.9
Blower Outlet	HANSBLOT	9/16/21 9:41	5.9	15.3	2.9	21	75.9	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 001	HANSR001	9/16/21 11:16	0	0.1	20.9	7	79	-0.37	-0.37	71.8	71.8	1.2	1.2
Extraction Well 002	HANSR002	9/16/21 11:07	2.1	10.7	8.4	8	78.8	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 003	HANSR003	9/16/21 10:57	11.3	14.3	0	55	74.4	-1.37	-1.37	71.9	72.1	3.9	3.9
Extraction Well 004	HANSR004	9/16/21 10:27	4.9	17.7	0.5	12	76.9	-1.89	-1.89	73.7	73.8	3.1	3
Extraction Well 005	HANSR005	9/16/21 10:22	3.7	8.5	11.8	34	76	-1.15	-1.15	63.2	63.5	3.5	3.5
Extraction Well 006	HANSR006	9/16/21 10:17	3.1	16.6	3.4	5	76.9	-1.85	-1.85	78.8	78.9	3.8	3.6
Extraction Well 007	HANSR007	9/16/21 10:08	1.5	12.8	5.7	4	80	-1.19	-1.19	67.2	67.2	3.1	3.1
Extraction Well 008	HANSR008	9/16/21 12:07	8.1	18.1	0.1	0	73.7	-0.15	-0.15	66.6	66.7	1	1.1
Extraction Well 009	HANSR009	9/16/21 11:59	2.9	15.3	1.8	0	80	N/A	N/A	N/A	N/A	N/A	N/A
Extraction Well 010	HANSR010	9/16/21 11:34	9.6	10.7	3.1	5	76.6	-0.23	-0.23	66	67.5	0.5	0.5
Extraction Well 011	HANSR011	9/16/21 11:40	4.6	9.5	0	5	85.9	-0.09	-0.09	74.2	74.6	0	0
Extraction Well 012	HANSR012	9/16/21 9:51	23.7	6.4	0	29	69.9	-1.01	-1.01	69.2	69.3	1.6	1.7
Extraction Well 013	HANSR013	9/16/21 10:04	6.2	14.6	1.3	8	77.9	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TD-1	HANSTD01	9/16/21 12:25	2.1	20.7	0.3	27	76.9	0.08	0.08	68.2	67.6	14.6	14.5
Trench Collector TR-1	HANSTR01	9/16/21 10:13	4.9	13.7	5.6	15	75.8	-0.66	-0.66	71.7	71.9	3.3	3.3
Trench Collector TR-2	HANSTR02	9/16/21 12:03	17.1	18.6	2.1	0	62.2	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-3	HANSTR03	9/16/21 11:26	33.4	18.1	0	8	48.5	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-4	HANSTR04	9/16/21 10:31	7.1	19.2	0	49	73.7	-0.63	-0.63	69.7	69.8	3.6	3.5
Trench Collector TR-5	HANSTR05	9/16/21 10:00	11.5	7.2	12.6	6	68.7	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-6	HANSTR06	9/16/21 12:11	24.7	16.5	1.7	0	57.1	N/A	N/A	N/A	N/A	N/A	N/A
Trench Collector TR-7	HANSTR07	9/16/21 10:52	5.7	11.5	4.4	4	78.4	-0.5	-0.5	63.6	63.6	3.5	3.5
Gas Probe 1	HANSGP01	9/16/21 14:40	0.0	1.1	18.9	0.0	80.0	0.01	NA	NA	NA	NA	NA
Gas Probe 2 Shallow	HANSGP2S	9/16/21 14:20	0.0	0.5	19.6	0.0	79.9	0.01	NA	NA	NA	NA	NA
Gas Probe 2 Middle	HANSGP2M	9/16/21 14:25	0.0	1.0	19.5	0.0	79.5	0.0	NA	NA	NA	NA	NA
Gas Probe 2 Deep	HANSGP2D	9/16/21 14:30	0.0	1.2	18.0	0.0	80.8	0.02	NA	NA	NA	NA	NA
Gas Probe 3	HANSGP03	9/16/21 13:15	0.0	1.0	19.1	0.0	79.9	0.01	NA	NA	NA	NA	NA
Gas Probe 4	HANSGP04	9/16/21 13:40	0.0	1.2	19.6	0.0	79.2	0	NA	NA	NA	NA	NA
Gas Probe 5	HANSGP05	9/16/21 12:45	0.0	0.9	19.9	0.0	79.2	0.01	NA	NA	NA	NA	NA
Gas Probe 6	HANSGP06	9/16/21 0:30	0.0	2.4	18.2	0.0	79.4	0.02	NA	NA	NA	NA	NA
Gas Probe 7	HANSGP07	9/16/21 14:00	0.0	1.2	18.5	0.0	80.3	0.02	NA	NA	NA	NA	NA

#### Notes

Flow rates measured using orifice plates

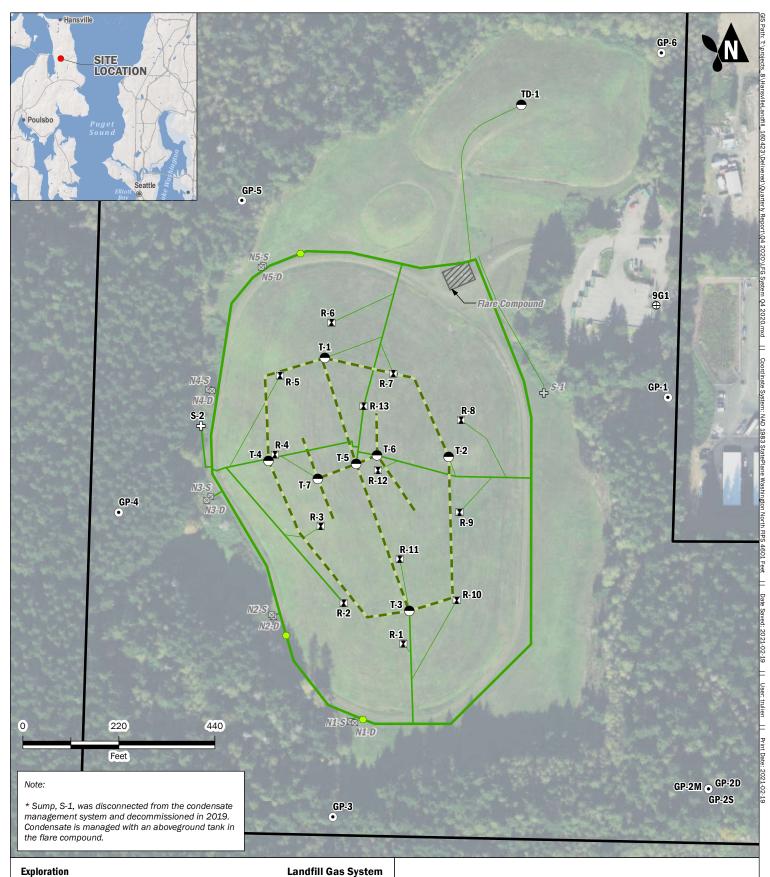
N/A = indicates parameter not measured

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



- LFG Pipe - 2"

LFG Pipe - 4"

LFG Pipe - 6"

Trench

Г

LFG Valve

Landfill Boundary

#### Exploration

- Gas Detection Probe  $\odot$
- X Gas Extraction Well (in Refuse Completion)
- Gas Extraction Well (Native Soil Completion) Disconnected in October, 2019  $\boxtimes$
- $\bigcirc$ Trench Completion
- $\oplus$ Well Geologic Control
- ÷ Condensate Sump
- Condensate Sump\* ÷
- Decomissioned in 2019

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Landfill Gas System 2021 Third Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, Washington

	JUL-2021	BY: MLK / RAP	FIGURE NO.
CONSULTING	PROJECT NO. 160423	REVISED BY: MLK	A-1

# ATTACHMENT B

Water Quality Results

### Table B-1. Water Level Elevations

Project No. 160423, Hansville Landfill, Hansville, WA

	Ground Elevation	Top of Casing Elevation		Elevation	Depth to Water	Water Level Elevation
Well	(ft NAVD88)	(ft NAVD88)	Тор	Bottom	(ft)	(ft NAVD88)
MW-5	363.7	366.9	244	234	100.95	266.0
MW-6	332.0	332.7	260	245	74.84	257.9
MW-7	344.3	346.0	259	244	85.21	260.8
MW-12I	245.6	248.1	217	207	10.41	237.7
MW-13D	258.1	260.4	205	195	11.98	248.4
MW-14	338.6	341.1	262	247	82.92	258.2

### Notes

Depths to water collected July 21, 2021.

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	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021	07/21/2021
		Site Cleanup						
Parameter	Units	Level						
Field Parameters								
Dissolved Oxygen	mg/L		7.57	0.36	0.48	0.40	1.48	0.35
рН	pH units		6.73	7.09	6.21	7.19	7.57	7.21
Redox	mV		49.7	27.7	-58.6	28.0	28.1	9.7
Specific Conductivity	uS/cm		115.0	205.3	226.5	96.7	121	129.9
Temperature	deg C		11.9	12.9	10.5	11.3	11.7	12.6
Turbidity	NTU		2.72	1.88	2.21	2.03	1.92	2.16
Conventionals								
Alkalinity	mg/L		77	150	140	74	79	91
Ammonia (as N)	mg/L		0.03 U	0.03 U	0.03 U	0.03 U	0.039	0.03 U
Bicarbonate	mg/L		77	150	140	74	79	91
Carbonate	mg/L		10 U					
Chloride	mg/L		3.0 U	3.6	3.0 U	3.0 U	4.7	4.9
Nitrate (as N)	mg/L		2.11	0.928	0.194	0.100 U	0.100 U	0.100 U
Nitrite (as N)	mg/L		0.100 U					
Orthophosphate (as P)	mg/L		0.13	0.10 U				
Sulfate	mg/L		7.1	17	5.0 U	5.7	15	8.2
Total Organic Carbon	mg/L		1.1	2.0	2.5	3.0	1.2	3.1
Dissolved Metals								
Arsenic	mg/L	0.005	0.00177	0.00159	0.00110	0.00244	0.00562	0.014
Manganese	mg/L	2.24	0.001 U	0.32	0.0012	0.027	0.0058	0.87
Volatile Organic Comp	ounds (VC	DCs)						
Vinyl Chloride	ug/L	0.025	0.02 U	0.056	0.02 U	0.11	0.02 U	0.052

### Notes

Bold text = Analyte was detected

Shaded Cell = Result exceeded Site Cleanup level

U = Not detected at or above the Reporting Limit shown

UJ = Analyte not detected and the Reporting Limit is an estimate

mg/L = milligram per liter

mV = millivolts

uS/cm = microSiemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

ug/L = microgram per liter

### Aspect Consulting

11/24/2021 V:\160423 Kitsap County Hansville Landfill\Deliverables\2021 Reports\2021 Q3\App B\Table B2 and B3 2021 Q3 Summary Tables Third Quarter 2021 Environmental Monitoring Report Page 1 of 1

### Table B-3. Surface Water Quality Results

Project No. 160423, Hansville Landfill, Hansville Washington

		Location	SW-1	SW-4	SW-6	SW-7
		Date	07/21/2021	07/21/2021	07/21/2021	07/21/2021
Parameter	Units	Site Cleanup Level				
Field Parameters						
Dissolved Oxygen	mg/L		10.01	9.74	8.45	9.56
рН	pH units		7.02	7.76	7.3	7.53
Redox	mV		7.6	1.1	-2.5	9.2
Specific Conductivity	uS/cm		164.6	361.7	129.2	139.5
Temperature	deg C		11.3	12.1	14	12.6
Turbidity	NTU		4.37	20.2	41.3	14.8
Conventionals	-					-
Alkalinity	mg/L		81	180	77	73
Ammonia (as N)	mg/L		0.03 U	0.03 U	0.067	0.03 U
Bicarbonate	mg/L		81	180	77	73
Carbonate	mg/L		10 U	10 U	10 U	10 U
Chloride	mg/L		4.1	14	3.4	3.2
Nitrate (as N)	mg/L		1.65	1.44	0.100 U	0.100 U
Nitrite (as N)	mg/L		0.100 U	0.100 U	0.100 U	0.100 U
Orthophosphate (as P)	mg/L		0.10 U	0.10 U	0.10 U	0.10 U
Sulfate	mg/L		8.4	23	5.0 U	5.9
Total Organic Carbon	mg/L		2.0	3.9	9.9	6.8
Dissolved Metals						
Arsenic	mg/L	0.005	0.00172	0.00182	0.00474	0.00176
Manganese	mg/L	2.24	0.001 U	0.031	0.089	0.0049
Volatile Organic Compo	ounds (VC	)Cs)				
Vinyl Chloride	ug/L	0.025	0.02 U	0.02 U	0.02 U	0.02 U

### Notes

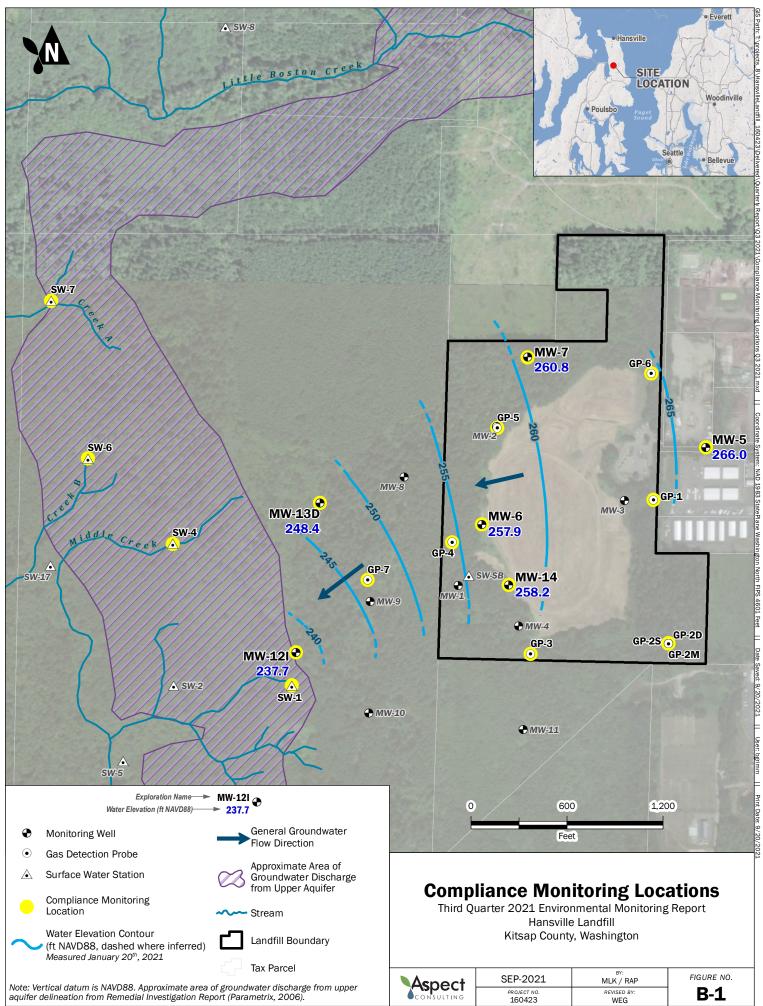
Bold text = Analyte was detected Shaded Cell = Result exceeded Site Cleanup level U = Not detected at or above the Reporting Limit shown mg/L = milligram per liter mg/L = milligram per liter mV = millivolts

uS/cm = microSiemens per centimeter

deg C = degrees Celcius

NTU = Nephelometric Turbidity Units

ug/L = microgram per liter



Basemap Layer Credits || Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

# ATTACHMENT C

**Groundwater Statistics and Time-Series Plots** 

### Table C-1. Statistical Analysis

Project 160423, Hansville Landfill, Hansville, WA

### **Dissolved Arsenic Statistical Results**

			Mann-Ker	ndall Test <sup>2</sup>		Sen's	Slope
Well	Statistical Trend <sup>1</sup>	Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(ug/L per day)	(ug/L per year)
MW-5	<sup>3</sup>						
MW-6							
MW-7							
MW-12I							
MW-13D	Increasing	7.7	1.96	58	Yes	5.3E-07	0.00019
MW-14	Decreasing	-7.7	-1.96	58	Yes	-3.1E-06	-0.0011

Vinyl Chloride Statistical Results

			Mann-Ker	ndall Test <sup>2</sup>		Sen's	Slope
Well	Statistical Trend <sup>1</sup>	Test Value, Z	Critical Value	Number of data points, n	Statistical Significance	(ug/L per day)	(ug/L per year)
MW-5	<sup>3</sup>						
MW-6	Decreasing	-7.6	-1.96	58	Yes	-6.5E-05	-0.024
MW-7							
MW-12I	Decreasing	-7.2	-1.96	59	Yes	-7.9E-05	-0.029
MW-13D							
MW-14	Decreasing	-8.9	-1.96	59	Yes	-9.3E-05	-0.034

#### 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.

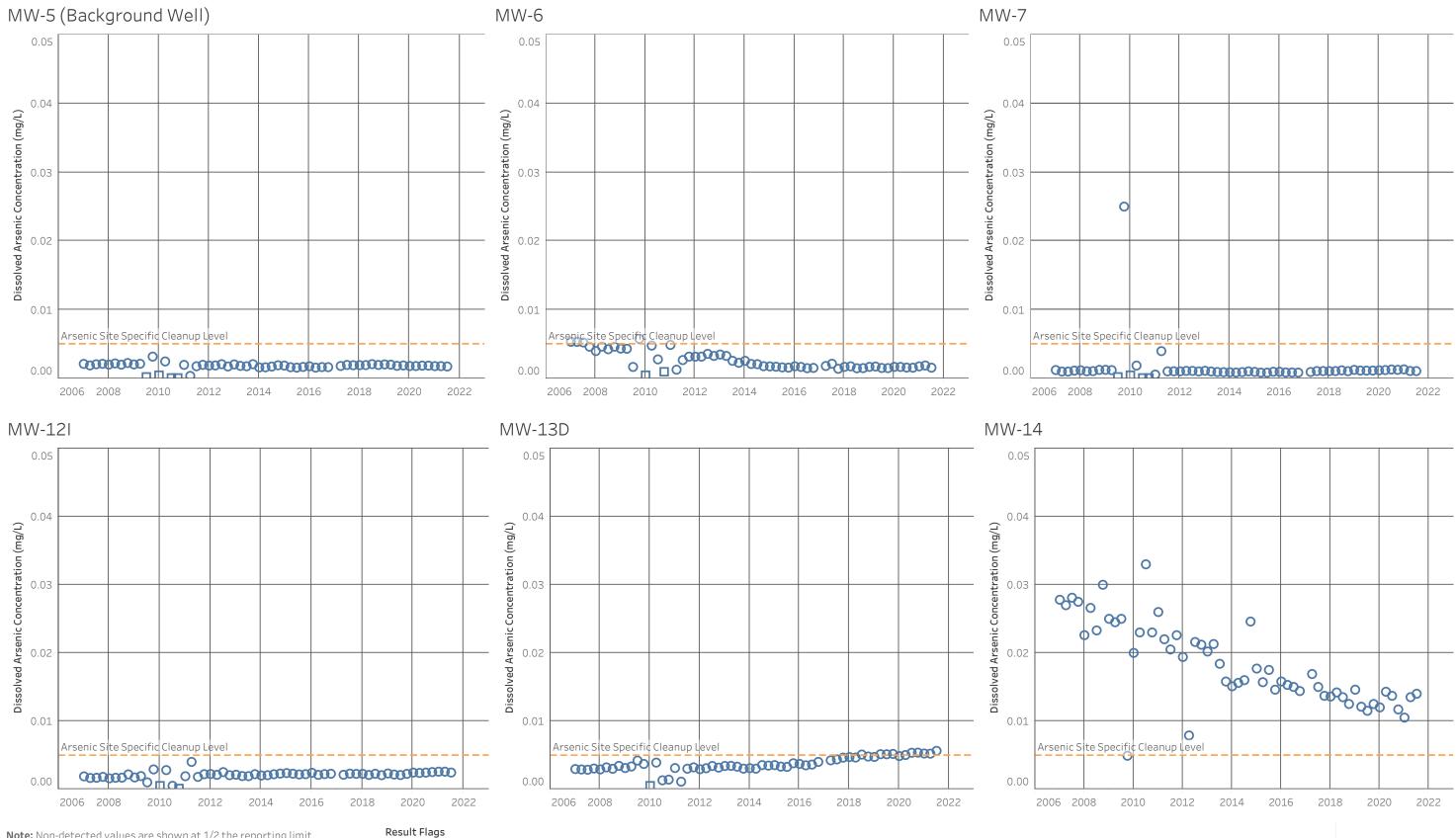
3 - "--" Indicates statistical analysis not conducted.

ug/L - micrograms per liter

4 - Data range is from 2nd quarter 2006 through 3nd quarter 2021

### **Aspect Consulting**

11/24/2021 V:\160423 Kitsap County Hansville Landfill\Deliverables\2021 Reports\2021Q3\App C\2021 Q3 C-1 Statistical Analysis Results



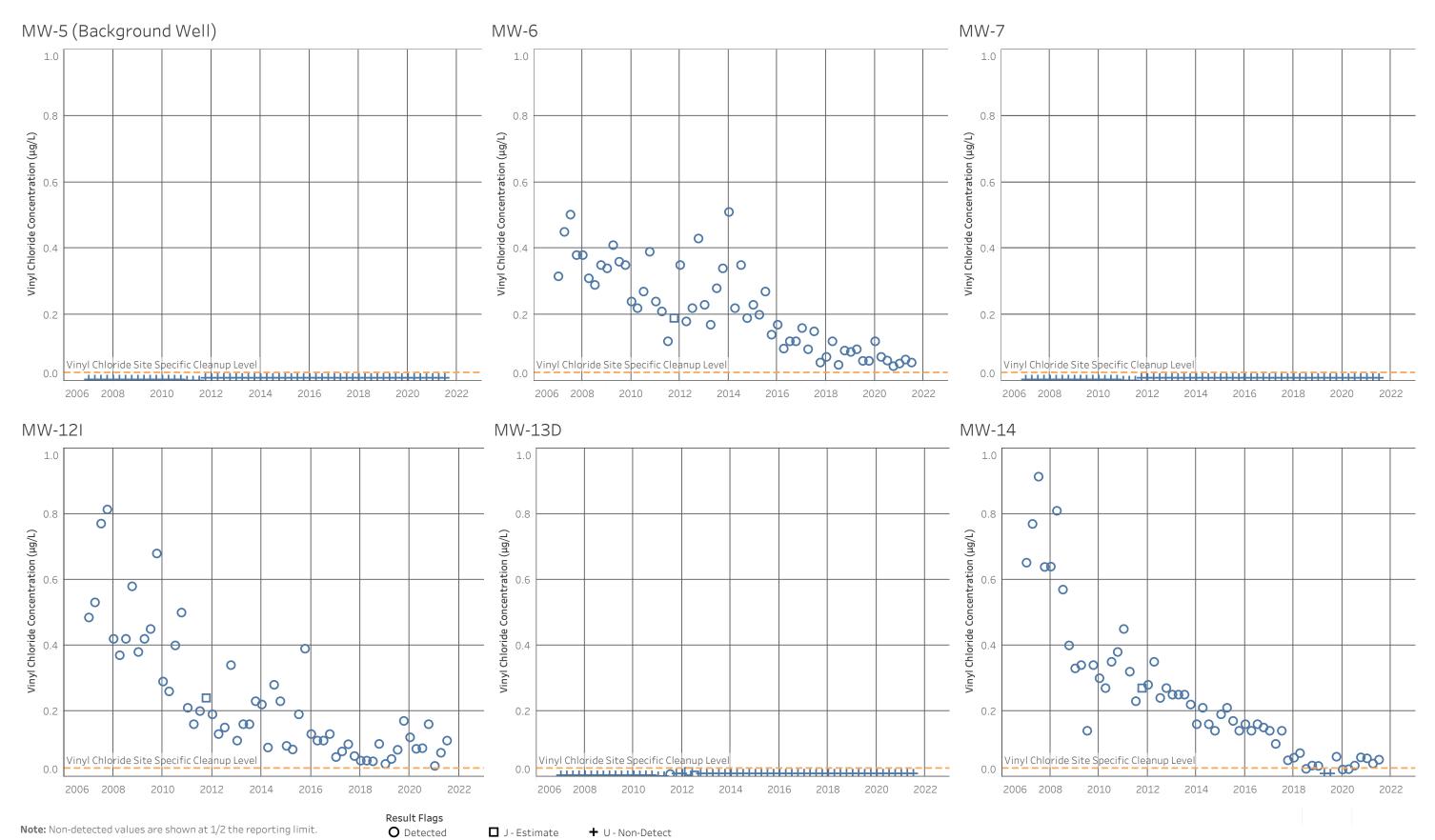
**Note:** Non-detected values are shown at 1/2 the reporting limit. Results from First Quarter 2017 were rejected. See text.

O Detected

U - Non-Detect

CONSULTING 10/27/2021 Trend Plots (As)

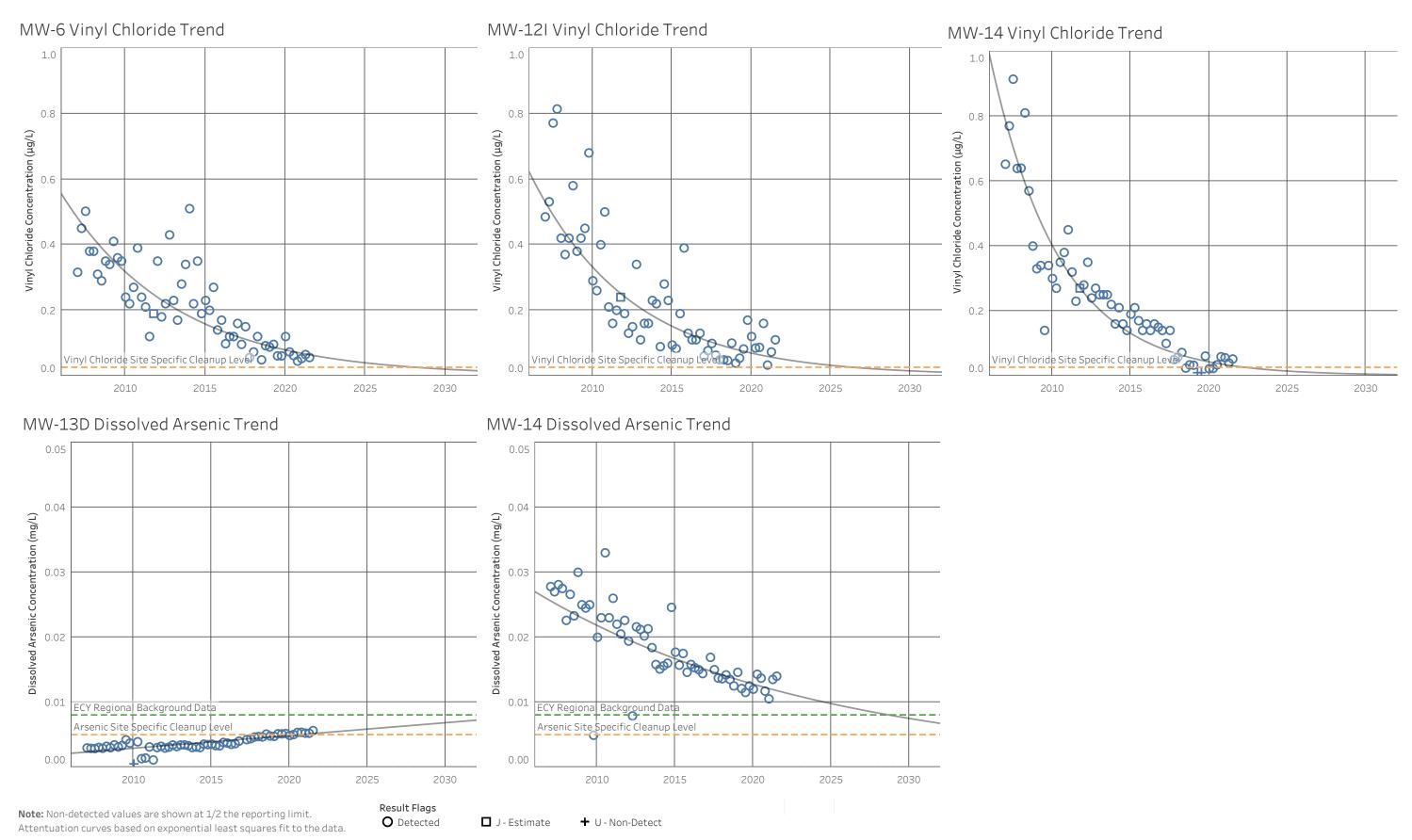
Figure C-1 - 2021 Third Quarter Dissolved Arsenic Sampling Results 2021 Third Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA



pect

NSULTING 10/27/2021 Trend Plots (VC)

Figure C-2 - 2021 Third Quarter Vinyl Chloride Sampling Results 2021 Third Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA



Aspect 10/27/2021

SULTING Trend Plots (VC)

#### Figure C-3 - 10 Year Attenuation Curves 2021 Third Quarter Environmental Monitoring Report Hansville Landfill Kitsap County, WA

# ATTACHMENT D

Field Forms and Laboratory Reports

GROUNE	WATER S	SAMPLING R	ECORD			WELL NUM	BER: <u>M</u>	<u>W-5</u>		Paç	je: of
roject Nar	me:	Hansville Land	fill		. <u>.</u>	Project Num					
	7/21/2021		5			Starting Wat			0.95		
	y: DCB or		NITOO			Casing Stick					
-	nterval (ft. T	ll:	N TOC			Total Depth Casing Dian		10	211		
		ГОС)						- <u></u>			
asing Vol	ume -	(ft Water	-) x	(Lpfv)	(gpf) =	(L)(ga	l)				
		= 0.02 gpf			= 0.65 gpf	6" = 1.4	47 gpf		Sample Int	ake Depth (i	ft TOC): midscreen
		0.09 Lpf 2'	' = 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56	Lpf				
URGING	G MEASU	REMENTS									
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%		
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity		Comments
	(gal o( L))	(gpm or Lom)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)		
905	0	0.2	100.95							Start	
0920	40	1	101.02	12-2	123.4	13.20	6.68	89.3	175	Char	no ador no
925	2.0		101.02	11.7	121.2	6.97	6.20	88.5	3.97		
930	3.0		101.02	12.9	113.0	6.61	6.36	67.5	2.81		
935	4.0		101.00	13.1	118.2	6.57	6.47	59.4	2.78		
940	SD		101.00	12.3	1187	6.39	6.60	49.9	2.66	-	
943			101.00	11.9	116.4	7.24	6.76	45.1	2.74		
946	6.0		101,00	1 X	115.5	7,43	6.70	51.1	2.93		
	7.0		101.00	11 7	115.0	7.58	6.72	50.9	3.11		
949	8.D 9.D			11.0	112.0		6.73	49.9	2.97		
952			101,01	11.9	115.0	7.56		49.7	2 71		
955	10.0		101.01	11.9	115.0	1.31	6.73	49,1	L.11		
000	11.0	JK.									
					-				-		
otal Gallo	ns Purged:	IL	2			Total Casing	y Volumes I	Removed:			
ndin n M/n	iter Level (ft	TOO: 10	1.04			Ending Tota	I Dooth (ft ]				
					2		i Deptii (it	l00)		-	
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appea	72000				
		Bottle Type	Quantity	rittation	Fieservation	Color	Turbidity &			Remarks	
11116	l mL			-			Sediment				
			1 2	N	HCI	clear	6.12				
000	40	VOA	3								
		VOA Amber	2	N	H2SO4	1	1				
	40			N N	H2SO4 N			direct sub	to ARI x1		2
000	40 250	Amber	2					direct sub direct sub			2
	40 250 500	Amber Poly	2 2	N	N				to ARI x1		2

roject Name ate: ampled by: easuring Po creened Into ther Pack In asing Volur	e:l 7/21/2021		ECORD			WELL NUME	BER:	<u>v-6</u>		Page: of
ampled by: easuring Po creened Inte Iter Pack In asing Volun		lansville Landfi				Project Num Starting Wat	er Level (ft	тос):	4.80	1
creened Inte Iter Pack In asing Volum		В				Casing Stick Total Depth				
lter Pack In asing Volur			N TOC			Casing Diam			14	
asing Volun		OC)		-						
	ne nes: 3/4"=	(ft Water) 0.02 gpf	) x	4"	gpf) = = 0.65 gpf 2.46 Lpf	(L)(ga 6" = 1.4 6" = 5.56	7 gpi		Sample Int	ake Depth (ft TOC): <u>midscreen</u>
URGING	MEASUF	REMENTS							1. 109/	
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10% Dissolved	± 0.1	± 10 mV	± 10%	0
Time	Cumul. Volume	Purge Rate	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)		pН	ORP (mv)	Turbidity (NTU)	Comments
522	(gal of L)	0.2	74.84					-	-	Start
1927	1.0		74.84	13.1	200.3	1.93	7.10	30.5		Clear, no adon no
1538	2-0		74.84	12-7	204.7	0.77	7.11	27.5	2.50	
543	3.0		74.86	12.9	105.8	0.45	7.09	28.5	1.00	
	4.0		74.81	B.0	2010-8	0.37	7.08	28-1	2.11	
	5.0		74.87	12.9	205.9	0.36	7.09	27.7	1.88	
	6.0	N.	74.87	12.9	2053	0-36	7.09	27.7		
						3				
Ending Wa	ter Level (ft	<u>(о. 0</u> тос): <u>7</u> Ч						Removed: TOC):		
	INVENT		Quantity	Filtration	Preservatio	n Appe	arance	Τ		
Time	Volume	Bottle Type	Guanticy			Color	Turbidity &			Remarks
	mL		2	N	HCI		Jeumen			
-	40	VOA	2	N	H2SO4					
1605		Amber		N	N			direct su	b to ARI x1	
-	250	Deba						direct su	b to ARI x1	
-	250 500	Poly	2	Y	I HNO3					
-	250	Poly Poly Poly	2	Y Y	HNO3			direct su	b to ARI	

P:\Kitsap County Solid Waste\Hansville Landfill 2016\Project 160423\Data\Field Data\WQ Sampling\Groundwater Sampling Form\_Hansville

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ate: ampled by leasuring F creened In ilter Pack I asing Volu	7/21/2021	ject Name: Hansville Landfill					ber: <u>Mi</u>	<u>J-7</u>	WELL NUMBER: <u>MW-7</u> Page: <u>1</u> of <u>1</u>						
ate: ampled by leasuring F creened In ilter Pack I asing Volu	7/21/2021		îII			Project Num	ber:	160423							
easuring F creened In liter Pack I asing Volu	coint of Well		4			Starting Wat		тос): 8	5.21						
asing Volu	Point of Well	CB				Casing Stick									
asing Volu			NTOC			Total Depth Casing Diam	(it ioc)	s): 2"							
asing Volu	nterval (ft. T	OC) —				out ing the									
		(ft Water	-) x (-	(Lpfv)	(gpf) =	(L)(ga	I)								
asing volu		0.02 gpf		f 4"	= 0.65 gpf	6" = 1.4	17 gpf		Sample Int	ake Depth (ft TOC): midscree					
	3/4"= 0	.09 Lpf 2	' = 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56	Lpf								
PURGING	MEASUF	REMENTS													
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)	рH	ORP (mv)	Turbidity (NTU)	Comments					
0730	_(gurer_/	0.2	85.21							Start					
0735		1	85.21	12.9	345.3	8.35	7.05	-139	2.12	clear, no odor					
0740			85.21	12.8	322.3	9.13			1.82						
0745			85.21	10.8	231.4	2.98		-20.8							
0750			85.21	10.0	227 3	0.95		342	2.19						
			85-21	10.6	226.7	0.55		-46:4	and the state of t						
2250		1	85.01	10.5	125.4	0.53	6.17		2.47						
5758			RC 21	10.5	226-1	0.48	G.20		2.33						
0801		_	85.21			0.48		-58.2							
0804					226.5			-58.6							
0807		1	85.21	10'2	660.3	070	0.61	20.0	- ASI	sample					
0810		¥		2	2 .					sample					
									_						
		. 1 7.				TILO									
Total Gallor	ns Purged:	11.2:				Total Casing	g volumes i	Removed:							
Ending Wat	er Levei (ft	тос):8	5.21			Ending Tota	al Depth (ft <sup>-</sup>	TOC):		-					
SAMPLE	INVENTO	RY													
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appea	arance			Remarks					
	mL					Color	Turbidity & Sediment			T Contained					
	40	VOA	3	N	HCI	clear	2.21								
ONIO		Amber	2	N	H2SO4	1	1								
0810	250		2	N	N			direct sub	to ARI x1						
0810	250	POID		Y	HNO3			direct sub							
0810	500	Poly	1 2					1							
0810		Poly	2	Y	N	V	1	direct sub	to ARI						

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GROUNE	WATER S	AMPLING R	ECORD			WELL NUM		N-12I		Pa	ge: of	
Proiect Nar	me:	Hansville Landf	Fill		,	Project Num	ber:	160423	}			
Date:	7/21/2021					Starting Wat		тос): 🏌	D.UI			
	y: DCB or (					Casing Stick						
		: DC)	N TOC			Total Depth Casing Dian		-	0			
		OC)										
asing Vol	lume	(ft Water	.) x	(Lpfv)	(gpf) =	(L)(ga	I)					
asing volu		0.02 gpf			= 0.65 gpf				Sample Int	ake Depth	(ft TOC): midscree	en
			' = 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56	Lpf					
	G MEASUF	Typical						1 10	± 10%			
Criteria:	Cumul.	0.1-0.5 Lpm	Stable Water	na	± 3% Specific	± 10% Dissolved	± 0.1	± 10 mV	I			
Time	Volume	Purge Rate	Level	Temp.	Conductance	Oxygen	pН	ORP	Turbidity	5 M	Comments	
	(gal of L)	(gpm or Lpm))	(ft)	(°C)	(µS/cm)	(mg/L)	-	(mv)	(NTU)			_
100	0	0.2	10.41		-			 -		Start	7.22	Para da
1105	1.0		10.41	10.1	96.8	1.71	6.93	56.3	10.04	Clear	no oder	no
110	2.0		10.01	10.9	97.0	0.56	6.89	51.0	3.77		1	
1115	3.0		10.45	11.3	97.0	0.55	7.10	36.4	2.75	-		
1120	4.0		10.43	11.4	96.1	0.47	7.16	32.2	2.81		_	
125	SO		10.44	11.5	95.9	0.43	7.18	29.8	2.44			
1130	6.0		10.44	11.4	96.4	0.41	719	28.8	295		6.01.	
1135	7.0	V	10.44	11.3	96.7	0.40	7.19	28.0	2.03		V	
140	8.0											
						ļ.,						_
					-							
							N. I.					
										· · · · ·		
	ons Purged:	7.0	L			Total Casing	g Volumes I	Removed:				
otal Gallo						E	1					
		TOC): 10 /	9.10			Ending Tota	I Depth (ft	100):		<u></u>		
nding Wa	ater Level (ft											
Ending Wa		RY		Filtration	Descention	<u> </u>						
inding Wa	Volume		Quantity	Filtration	Preservation		Turbidity &	-		Remarks	5	
Ending Wa SAMPLE Time		RY	Quantity	Filtration	Preservation	Color	Turbidity & Sediment	-		Remarks	5	
Inding Wa	Volume	RY	Quantity 3	Filtration	Preservation		Turbidity &			Remarks	\$ 	
Ending Wa SAMPLE Time	Volume mL	RY Bottle Type				Color	Turbidity & Sediment	-		Remarks	3 	
Ending Wa <b>SAMPLE</b> Time	Volume mL 40	Bottle Type	3	N	HCI	Color	Turbidity & Sediment	direct sub	to ARI x1	Remarks	; 	
nding Wa SAMPLE Time	Volume ML 40 250	RY Bottle Type VOA Amber	3	N	HCI H2SO4	Color	Turbidity & Sediment		to ARI x1 to ARI x1	Remarks	; 	
nding Wa <b>AMPLE</b> Time	Volume mL 40 250 500	RY Bottle Type VOA Amber Poly	3 2 2	N N N	HCI H2SO4 N	Color	Turbidity & Sediment		to ARI x1	Remarks	- (	

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GROUNI	WATER :		ECORD			WELL NUM	IBER: <u>\\\</u>	N-13F	>	Page: of
Project Na	me:	Hansville Land	fill			Project Nun				
	7/21/2021					Starting Wa			11.98	
	y: DCB or Boint of We		N TOC			Casing Sticl Total Depth				
		0C)				Casing Diar				
		тос)	/							1
		(ft Water								
asing vol		= 0.02 gpf							Sample Int	ake Depth (ft TOC): midscreen
URGIN		0.09 Lpf 2' REMENTS	' = 0.62 Lpf		2.46 Lpf	0 - 0.00			,	fi
Criteria:		Typical	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%	-
Time	Cumul.	0.1-0.5 Lpm Purge Rate	Water	Temp.	Specific	Dissolved	рН	ORP	Turbidity	Comments
TIME	(gal of L)	(gpm or Lpm)	Level (ft)	(°C)	Conductance (µS/cm)	Oxygen (mg/L)		(mv)	(NTU)	
220		D-2	11.918		(porony)	(ing/c/				Start
225	1.0		11.98	11.6	121.2	2.88	7-19	40-8		Clear, slight sulfin-
230	2.0		11.98	11.2	121.4	2.78	7.42	39.5	2.97	, construction of the section
235	3.0		1201	11.5%	120.5	2.16	7.41	38.7	3.48	64.6
240	40		1201	11.01	121 2-	N.S.I	7.51	29.0	2.77	
1245	5.0		12.01	11.8	121 1	1.54		28.4	1.74	
250	(0.1)		12.01	11.7	171.0	1,48	7.57	.28-1	2.70	
155	LA U		12.01	II C	101/9	1.10		001		
1/2										
				-						
				v •						
									· · ·	
				1						
otal Gallo	ns Purged:	6.01				Total Casing	y Volumes I	Removed:		
	17-		2.04							
	ter Level (ft		2.04			Ending Tota	Depth (ft	TOC):		
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	Appea	rance			
	mL					Color	Turbidity &	1		Remarks
be-						Clear	Sediment			
135	40	VOA	3	N	HCI	Lect	1.92			
-	250	Amber	2	N	H2SO4				to ADL ++	
	500	Poly	2	N	N			direct sub		
1	500	Poly	2	Y	HNO3			direct sub		
¥	250	Poly	1	Y	N	V	¥	direct sub		
								L		
IETHOE	)S								-	
arameters	s measured	with (instrument	model & se	rial number	YSI: red	Turbidi	meter: 💍	range	WLI: B	he flahite
urging Eq	uipment:	dedicated blade	ler pump	OR	peristaltic	Decon Equ	ipment:	Alconox +	water	
)isposal of	Discharged	Water:	on site							

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	ULTING					WELL NUMB	ER: M	N-14		Page: of			
COUNDW	VATER S	AMPLING RE											
ject Name	::Ł	lansville Landfil	IL			Project Numb	er: er Level (ft ]	TOC): S	2.92	1			
te: <u>7</u>	DCB or C					Starting Water Level (ft TOC): <u>82.92</u> Casing Stickup (ft):							
			N TOC			Total Depth (ft TOC): Casing Diameter (inches):							
reened Inte	erval (ft. TC	) <u>)</u>				Casing Diame	eter (inches	1	<i>(</i> *				
er Pack Int	terval (ft. To	OC)		(1 - 6.)(0	- (free	(L)(gal)	)			5			
sing Volum	ne	(ft Water) 0.02 gpf   2	) x 2" = 0 16 apt	(Lpiv)(g 4" =	0.65 gpf	6" = 1.4	7 gpf		Sample Inte	ake Depth (ft TOC): midscreen			
sing volum	3/4"= 0.	.09 Lpf 2"	= 0.62 Lpf	4" = 2	.46 Lpf	6" = 5.56	pf						
JRGING		REMENTS											
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%				
	Cumul.	Purge Rate	Water	Temp.	Specific Conductance	Dissolved Oxygen	pН	ORP	Turbidity	Comments			
	(gal of L)	(gpm or (Lpm))	Level (ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)				
335	(gal of L)	19pm or epine	\$2.92	-		-	-			Start			
340	1.0	1	82.98	12.8	125.1	6.02	7.36	10.1	4.22	Clear, no ador, no			
	2.0		62.98	12.7	127.3	1.72	7.25	11.5	364				
9	3.0		87.98	12.7	128.5	0.45	7.22	11.2	3.39				
	4.0		82.94	12.6	129.3	037	7.21	11-7	2.38				
	5.0		9.98	12.0	130.0	0.35	7.20	11.6	2.63				
1.9.0	(0.0		87.98	17.10	179.9	0.35	7.21	9.7	276				
405 1	0-0	V	92.10	16 00									
						- 29.							
							8						
	na Duraod:	GOL				Total Casin	g Volumes	Removed:					
						Ending Tot	-l Danéh (ft						
	ter Level (fl	t TOC):53	(a)			Ending Tot	al Depth (it	100)					
Ending Wat						_		1.					
	INVENT	ORY		Filtration	Preservation	- Anno	oronco	Remarks					
	Volume	Bottle Type	Quantity	Filtration	Preservation		arance Turbidity 8			Remarks			
SAMPLE			Quantity	Filtration	Preservation	Color	Turbidity 8 Sediment			Remarks			
SAMPLE	Volume		Quantity 3	Filtration	нсі		Turbidity 8			Remarks			
SAMPLE Time	Volume mL	Bottle Type				Color	Turbidity 8 Sediment	2					
SAMPLE Time	Volume mL 40	Bottle Type	3	N	нсі	Color	Turbidity 8 Sediment	direct su	b to ARI x1				
SAMPLE Time	Volume mL 40 250	Bottle Type VOA Amber	3	N	HCI H2SO4	Color	Turbidity 8 Sediment	direct su	b to ARI x1				
SAMPLE Time	Volume mL 40 250 500	Bottle Type VOA Amber Poly	3 2 2	N N N	HCI H2SO4 N	Color	Turbidity 8 Sediment	direct su	b to ARI x1				

ate: ampled by: leasuring P creened In ilter Pack In asing Volut asing volut	7/21/2021 Point of We terval (ft. T nterval (ft.	CB			,	Project Num Starting Wa		160423				
ampled by: leasuring P creened Ini ilter Pack Ir asing Volur asing volur	Point of We terval (ft. T nterval (ft.	CB		3. <sup>-</sup> 8		Starting Wa	ter Level (ft	TOOL				
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ilter Pack Ir asing Volu asing volur	nterval (ft.		NICO			Casing Dian						
asing volur	me											<b>6</b> 24
URGING		(ft Water = 0.02 gpf							Sample Int	ake Depth (ft	TOC): mid	screen
		0.09 Lpf 2" REMENTS	' = 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56	i Lpf					
Criteria:		Typical 0.1-0.5 Lpm	5 Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water Level	Temp.	Specific Conductance		рН	ORP	Turbidity	C	Comments	
20	(gal or L)	(gpm or Lpm)	<u>(ft)</u>	(°C)	(µS/cm)	(mg/L)	702	(mv)	(NTU)	Chart		-
120				11.2	010	10.01	1:0 2	11.60	100	Start		
		20									7	
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			ĸ.,									
				-								
				-					10 T			
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												2
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otal Gallon	s Purged:	-	_	2		Total Casing	g Volumes f	Removed:				
						Fudles Tete					1	
		TOC):				Ending Tota		100):				
			Ouentitu	Filtration	Preservation	Appea	ranco					
Time	Volume	Bottle Type	Quantity	Fillrauon	Preservation		Turbidity &			Remarks		
122				· · ·			Sediment					
1120	40	VOA	3	N		clear	4.31					
1	250	Amber		N N								
+	500	Poly	2		N	_						
	500	Poly	2	Y	HNO3		1			-		
V	250	Poly	1	Y	N	<u>v</u>	#	direct sub	to ARI			
							l					
1120	250 500 500	Amber Poly Poly	2 () 2 · 2	N N Y		Color clear			to ARI x1 to ARI x1 to ARI	1		

P:\Kitsap County Solid Waste\Hansville Landfill 2016\Project 160423\Data\Field Data\WQ Sampling\Groundwater Sampling Form\_Hansville

ROUND	NATER S	AMPLING RE	CORD			WELL NUM	ber: <u>Sh</u>	1-4		Page: of		
piect Nam	e:	ansville Landfil				Project Number: 160423						
te:	7/21/2021					Starting Wat		-				
mpled by:	DCB or C	в				Casing Stick Total Depth						
easuring Point of Well: N TOC creened Interval (ft. TOC)						Casing Diam						
reened in Ier Pack li	terval (π. TO nterval (ff. T(						,					
		(ft Water)	x	Lpfv)(	gpf) =	(L)(ga	l) -		6			
ising volu ising volur	mes: 3/4"=	0.02 gpf 2	" = 0.16 gpf	4" :	= 0.65 gpf	6" = 1.4	47 gpf		Sample Int	ake Depth (ft TOC): midscre		
- ···· 3	3/4"= 0.	09 Lpf 2"	= 0.62 Lpf	4" =	2.46 Lpf	6" = 5.56	Lpf					
JRGING	MEASUR	EMENTS										
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water Level (ft)	Temp. (°C)	Specific Conductance (µS/cm)	Dissolved Oxygen (mg/L)	рН	ORP (mv)	Turbidity (NTU)	Comments		
210	(gal or L)	(gpm or Lpm)			361.7	9.74	7.76	1.1	20.2	Start		
LIU					50 CO 10							
								- 2				
										₹		
										12		
						2						
-												
								· · ·	-			
·												
			·									
otal Gallo	ns Purged:	-				Total Casir	ng Volumes I	Removed:				
		_				<b>Falle</b> T 1	al Denth 1547	TOC)·				
	ter Level (ft						al Depth (ft					
SAMPLE	INVENTO				<b>ID</b> "	A	010000	1				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation		Turbidity &	-	Remarks			
	mL			1		Color	Sediment					
210	40	VOA	3	N	HCI	brown	1 20.2					
1	250	Amber	2	N	H2SO4							
	500	Poly	2	N	* N			direct su	b to ARI x1	(M) (		
	500	Poly	2	Y	HNO3			direct su	b to ARI x1			
		Poly	1	Y	N	N	V	direct su	b to ARI			
	250							1				

P:\Kitsap County Solid Waste\Hansville Landfill 2016\Project 160423\Data\Field Data\WQ Sampling\Groundwater Sampling Form\_Hansville

ROUND	NATER S	AMPLING RE	CORD		1	WELL NUMBER: <u>SW-6</u> Page: <u>of</u>						
		lansville Landfil	[ <sup>1</sup>			Project Num						
	7/21/2021					Starting Wat Casing Stick						
mpled by: DCB or CB						Total Depth (						
reened In							eter (inches					
	nterval (ft. T				L							
sing Volu	me	(ft Water)	x	(Lpfv)(	gpf) =	(L)(ga				L D		
ising volu	mes: 3/4"=	0.02 gpf 2	?" = 0.16 gpf	4" =	= 0.65 gpf	6" = 1.4			Sample Int	ake Depth (ft TOC):_midscreer		
		09 Lpf 2"	= 0.62 Lpf	4" = 2	2.46 Lpt	6" = 5.56	црг	4				
URGING	MEASUR			·			×		. 100/			
Criteria:		Typical 0.1-0.5 Lpm	Stable	na	± 3%	± 10%	± 0.1	± 10 mV	± 10%			
Time	Cumul. Volume	Purge Rate	Water	Temp.	Specific Conductance	Dissolved Oxygen	рН	ORP	Turbidity	Comments		
	(gal or L)	(gpm or Lpm)	(ft)	(°C)	(µS/cm)	(mg/L)		(mv)	(NTU)			
300				10.0	129.2	8.45	7.30	-2.5	41.3	Start		
					•							
otal Gallo	ns Purged:				1	Total Casin	g Volumes I	Removed:				
		_				Coding Tat	al Depth (ft 1					
nding Wa	ter Level (ft	TOC):				Ending Tota		100)				
	INVENTO				10	1 .						
SAMPLE	Volume	Bottle Type	Quantity	Filtration	Preservation		Turbidity &	- Remarks				
Time						Color	Sediment					
	mL			N	НСІ	brown	41.3					
Time		VOA	3	IN								
	40	VOA	3		H2SO4	1	1					
Time	40 250	Amber	2	N	H2SO4			direct sul	b to ARI x1			
Time	40 250 500	Amber Poly	2	N N	N				b to ARI x1			
Time	40 250	Amber	2 2 2	N N Y	N HNO3			direct sul	b to ARI x1			
Time	40 250 500	Amber Poly	2	N N	N	1			b to ARI x1			
Time	40 250 500 500	Amber Poly Poly	2 2 2	N N Y	N HNO3			direct sul	b to ARI x1			
Time	40 250 500 500 250	Amber Poly Poly	2 2 2	N N Y	N HNO3			direct sul	b to ARI x1			
	40 250 500 250 250	Amber Poly Poly Poly	2 2 2 1	N N Y Y	N HNO3 N			direct sul direct sul	b to ARI x1			
Time	40 250 500 250 250 DS s measured	Amber Poly Poly Poly with (instrumen	2 2 1 t model & se	N N Y Y	N HNO3 N	ge Turbie	dimeter: 01	direct sul	b to ARI x1 b to ARI			
Time	40 250 500 250 250 DS s measured	Amber Poly Poly Poly	2 2 1 t model & se	N N Y Y	N HNO3 N	ge Turbie	dimeter: 01	direct sul	b to ARI x1 b to ARI			
Time	40 250 500 250 250 <b>DS</b> s measured quipment:	Amber Poly Poly Poly with (instrumen	2 2 1 t model & se	N N Y Y	N HNO3 N	ge Turbie	dimeter: 01	direct sul	b to ARI x1 b to ARI			

1

ROUND	NATER S	AMPLING RE	CORD			WELL NUMBER: SW-7 Page: of						
ate:	7/21/2021					Project Number: 160423 Starting Water Level (ft TOC):						
ampled by	DCB or C	B	TOC			Casing Stickup (ft): Total Depth (ft TOC):						
easuring F	oint of vveil: terval (ft. TO	C)	100			Casing Diam						
Iter Pack I	nterval (ft. To	C)										
asing Volu	me	(ft Water) 0.02 gpf 2 09 Lpf 2"	x	4" =	gpf) = = 0.65 gpf 2.46 Lpf	6" = 1.4	in gpr		Sample Inf	ake Depth (ft TOC): <u>midscree</u>		
URGING	MEASUR			5					-	ч		
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)	рĤ	ORP (mv)	Turbidity (NTU)	Comments		
400	(gal or L)	(gpm or cpm)				9.56	7.53	9.2	14.8	Start		
100												
					-					x		
						+						
						*		_				
				1								
			5									
	· · · ·					Total Casin	ig Volumes I	Removed:				
Total Gallo	ns Purged:					Total Casili	y volumes i	(oniovou)				
Ending Wa	ter Level (ft	TOC):				Ending Tot	al Depth (ft ]	FOC):		_		
						P		1				
Time	Volume	Bottle Type	Quantity	Filtration	Preservation	n Appe	arance	Remarks				
	mL					Color	Turbidity & Sediment	1		Remarks		
	1110					cloar	14,8					
1400	40	VOA	3	N	HCI	clear	1710	-				
	250	Amber	2	N	H2SO4							
	500	Poly	2	N	N	+		1				
	500	Poly	2	Y	HNO3			1	ib to ARI x1			
V	250	Poly	1	Y	N	V	V	direct su	ib to ARI			
метно	500 500 250 <b>DS</b>	Poly Poly	2	Y Y	HNO3 N	ge Turbi	dimeter: or	direct su direct su	wLI:			
		dedicated blac				Decon Ed	quipment:	Alconox	+ water			
		uculvated vidu	wor purity		F							
		d Water:			×							

# 🛟 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

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

### Laboratory Job ID: 280-151093-1

Client Project/Site: Hansville Landfill Sampling Event: 2Q\_3Q\_4Q Sampling

### For:

.....Links

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The

www.eurofinsus.com/Env

Visit us at:

Expert

Aspect Consulting 350 Madison Ave N Bainbridge Island, Washington 98110

Attn: Ms. Meilani Lanier-Kamaha'o

Betay Sara

Authorized for release by: 8/9/2021 3:29:00 PM

Betsy Sara, Project Manager II (303)736-0189 Betsy.Sara@Eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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3

5

### 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.

### Glossary

0103541 y	
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: 280-151093-1

### Laboratory: Eurofins TestAmerica, Denver

Narrative

### CASE NARRATIVE

**Client: Aspect Consulting** 

Project: Hansville Landfill

### Report Number: 280-151093-1

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 07/23/2021 and 07/26/2021. The temperatures of the coolers at receipt were 2.4 C, 2.5 C and 18.8 C.

Due to a delay in FedEx delivery, the sample MW6 was received at the laboratory outside the required temperature criteria of 6.0 C at a temperature of 18.8 C. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

One of two 250 mL sulfuric acid preserved amber glass containers for the sample MW6 was received broken, however sufficient volume remained to proceed with the requested analyses. The client was notified.

#### **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.

The percent recoveries and/or relative percent difference of the MS/MSD performed on sample MW6-072121 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.

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

### Job ID: 280-151093-1 (Continued)

#### Laboratory: Eurofins TestAmerica, Denver (Continued)

#### **General Comments**

The analysis for 8260C SIM was performed by Eurofins TestAmerica Buffalo. Their address and phone number are: Eurofins TestAmerica Buffalo 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

Total Organic Carbon - Average

## Client Sample ID: MW5-072121

onent campie ib: mitte						Lab Gampie ID. 200-101			
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	77		10		mg/L	1	SM 2320B	Total/NA	
Bicarbonate Alkalinity	77		10		mg/L	1	SM 2320B	Total/NA	

mg/L

### Client Sample ID: MW7-072121

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Manganese	1.2		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	2.5		1.0		mg/L	1	SM 5310B	Total/NA

1.0

1.1

### Client Sample ID: MW12I-072121

 Analyte	Result Q	ualifier RL	MDL U	Unit	Dil Fac D	Method	Prep Type
Vinyl chloride	0.11	0.020	ι	ug/L	1	8260C SIM	Total/NA
Manganese	27	1.0	ι	ug/L	1	6020	Dissolved
Sulfate	5.7	5.0	r	mg/L	1	300.0	Total/NA
Total Alkalinity	74	10	r	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	74	10	r	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Average	3.0	1.0	r	mg/L	1	SM 5310B	Total/NA

### Client Sample ID: MW13D-072121

Analyte	Result Qualifier	RL	MDL U	Unit	Dil Fac	DN	lethod	Prep Type
Manganese	5.8	1.0	ι.	ug/L	1	6	020	Dissolved
Chloride	4.7	3.0	r	mg/L	1	3	00.0	Total/NA
Sulfate	15	5.0	r	mg/L	1	3	0.00	Total/NA
Ammonia as N	0.039	0.030	n	mg/L	1	3	50.1	Total/NA
Total Alkalinity	79	10	r	mg/L	1	S	M 2320B	Total/NA
Bicarbonate Alkalinity	79	10	r	mg/L	1	S	M 2320B	Total/NA
Total Organic Carbon - Average	1.2	1.0	r	mg/L	1	S	M 5310B	Total/NA

### Client Sample ID: MW14-072121

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Vinyl chloride	0.052	0.020	ug/L	1	8260C SIM	Total/NA
Manganese	870	1.0	ug/L	1	6020	Dissolved
Chloride	4.9	3.0	mg/L	1	300.0	Total/NA
Sulfate	8.2	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	91	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	91	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Average	3.1	1.0	mg/L	1	SM 5310B	Total/NA

## Client Sample ID: SW1-072121

Analyte	Result Qua	alifier RL	MDL Un	it Dil Fac	D	Method	Prep Type
Chloride	4.1	3.0	mg	/L 1	_	300.0	Total/NA
Sulfate	8.4	5.0	mg	/L 1		300.0	Total/NA
Total Alkalinity	81	10	mg	/L 1		SM 2320B	Total/NA
Bicarbonate Alkalinity	81	10	mg	/L 1		SM 2320B	Total/NA
Total Organic Carbon - Average	2.0	1.0	mg	/L 1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Total/NA

Job ID: 280-151093-1

SM 5310B

Lab Sample ID: 280-151093-2

Lab Sample ID: 280-151093-3

Lab Sample ID: 280-151093-4

Lab Sample ID: 280-151093-5

Lab Sample ID: 280-151093-6

1

# **Detection Summary**

## Client Sample ID: SW4-072121

# Lab Sample ID: 280-151093-7

Result Qualifier	RL	MDL Unit	Dil Fac	D Metho	od Prep Type
31	1.0	ug/L	1	6020	Dissolved
14	3.0	mg/l	_ 1	300.0	Total/NA
23	5.0	mg/l	_ 1	300.0	Total/NA
180	10	mg/l	_ 1	SM 23	320B Total/NA
180	10	mg/l	_ 1	SM 23	320B Total/NA
3.9	1.0	mg/l	- 1	SM 53	310B Total/NA
	31 14 23 180 180	31         1.0           14         3.0           23         5.0           180         10           180         10	31         1.0         ug/L           14         3.0         mg/l           23         5.0         mg/l           180         10         mg/l           180         10         mg/l	31         1.0         ug/L         1           14         3.0         mg/L         1           23         5.0         mg/L         1           180         10         mg/L         1           180         10         mg/L         1	31         1.0         ug/L         1         6020           14         3.0         mg/L         1         300.0           23         5.0         mg/L         1         300.0           180         10         mg/L         1         SM 23           180         10         mg/L         1         SM 23

### Client Sample ID: SW7-072121

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.9		1.0		ug/L	1	_	6020	Dissolved
Chloride	3.2		3.0		mg/L	1		300.0	Total/NA
Sulfate	5.9		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
Total Organic Carbon - Average	6.8		1.0		mg/L	1		SM 5310B	Total/NA

### Client Sample ID: SW6-072121

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
Manganese	89		1.0		ug/L	1	6020	Dissolved
Chloride	3.4		3.0		mg/L	1	300.0	Total/NA
Ammonia as N	0.067		0.030		mg/L	1	350.1	Total/NA
Total Alkalinity	77		10		mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	77		10		mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Average	9.9		1.0		mg/L	1	SM 5310B	Total/NA

### Client Sample ID: MW20DD-072121

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	) Method	Prep Type
Vinyl chloride	0.053	0.020	ug/L	1	8260C SIM	Total/NA
Manganese	870	1.0	ug/L	1	6020	Dissolved
Chloride	4.7	3.0	mg/L	1	300.0	Total/NA
Sulfate	8.2	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	90	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	90	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Average	2.9	1.0	mg/L	1	SM 5310B	Total/NA

### **Client Sample ID: TB1**

No Detections.

### Client Sample ID: MW6-072121

Analyte	Result Qualifier	r RL	MDL Unit	Dil Fac D	Method	Prep Type
Vinyl chloride	0.056	0.020	ug/L	1	8260C SIM	Total/NA
Manganese	320	1.0	ug/L	1	6020	Dissolved
Chloride	3.6	3.0	mg/L	1	300.0	Total/NA
Sulfate	17	5.0	mg/L	1	300.0	Total/NA
Total Alkalinity	150	10	mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity	150	10	mg/L	1	SM 2320B	Total/NA
Total Organic Carbon - Average	2.0	1.0	mg/L	1	SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

# Lab Sample ID: 280-151093-9

# Lab Sample ID: 280-151093-11

Lab Sample ID: 280-151093-12

Lab Sample ID: 280-151166-1

# **Method Summary**

#### Client: Aspect Consulting Project/Site: Hansville Landfill

/lethod	Method Description	Protocol	Laboratory
260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF
6020	Metals (ICP/MS)	SW846	TAL DEN
00.0	Anions, Ion Chromatography	MCAWW	TAL DEN
50.1	Nitrogen, Ammonia	MCAWW	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
M 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
005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL DEN
030C	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 TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

# Sample Summary

### Client: Aspect Consulting Project/Site: Hansville Landfill

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-151093-1	MW5-072121	Water	07/21/21 10:00	07/23/21 09:20
280-151093-2	MW7-072121	Water	07/21/21 08:10	07/23/21 09:20
280-151093-3	MW12I-072121	Water	07/21/21 11:40	07/23/21 09:20
280-151093-4	MW13D-072121	Water	07/21/21 12:55	07/23/21 09:20
280-151093-5	MW14-072121	Water	07/21/21 14:10	07/23/21 09:20
280-151093-6	SW1-072121	Water	07/21/21 11:20	07/23/21 09:20
280-151093-7	SW4-072121	Water	07/21/21 12:10	07/23/21 09:20
280-151093-8	SW7-072121	Water	07/21/21 14:00	07/23/21 09:20
280-151093-9	SW6-072121	Water	07/21/21 13:00	07/23/21 09:20
280-151093-11	MW20DD-072121	Water	07/21/21 00:00	07/23/21 09:20
280-151093-12	TB1	Water	07/21/21 08:10	07/23/21 09:20
280-151166-1	MW6-072121	Water	07/21/21 16:05	07/26/21 09:10

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

_	lie e gai								
Client Sample ID: MW5-072121							Lab Sam	ple ID: 280-15	1093-1
Date Collected: 07/21/21 10:00								Matrix	
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			07/28/21 21:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	118		50 - 150			-		07/28/21 21:09	1
TBA-d9 (Surr)	106		50 - 150					07/28/21 21:09	1
Client Sample ID: MW7-072121							Lob Som	ple ID: 280-15	4002.2
Date Collected: 07/21/21 08:10							Lab Sali	•	: Water
Date Received: 07/23/21 09:20								Iviau IX.	. Waler
Analyte	Pocult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	Quaimer	0.020		ug/L	<b>_</b>	Flepaleu	07/28/21 21:33	1
Virtyr chloride	ND		0.020		ug/L			01120121 21:55	
Surrogate	%Recovery	Qualifier	Limits			_	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	121		50 - 150			_		07/28/21 21:33	1
TBA-d9 (Surr)	105		50 - 150					07/28/21 21:33	1
Client Sample ID: MW12I-07212	04						Lob Som	nia ID: 290.45	1002 2
Date Collected: 07/21/21 11:40	21						Lab San	ple ID: 280-15	
								Matrix	vvater
Date Received: 07/23/21 09:20	Booult	Qualifier	RL	MDL	Unit	D	Bronarad	Applyzed	Dil Fac
Analyte Vinyl chloride	0.11	Quaimer	0.020		ug/L	<u> </u>	Prepared	Analyzed 07/28/21 21:57	1
Vinyi chionde	0.11		0.020		ug/L			01120121 21.01	
Surrogate	%Recovery	Qualifier	Limits			_	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	119		50 - 150					07/28/21 21:57	1
TBA-d9 (Surr)	97		50 - 150					07/28/21 21:57	1
Client Sample ID: MW13D-0721	121						l ah Sam	ple ID: 280-15	1093_4
Date Collected: 07/21/21 12:55	21						Lab San	-	: Water
Date Received: 07/23/21 09:20								Matrix	. Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride			0.020		ug/L		riopurou	07/28/21 22:21	1
Surrogate	%Recovery	Qualifier	Limits			_	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	122		50 - 150					07/28/21 22:21	1
TBA-d9 (Surr)	113		50 - 150					07/28/21 22:21	1
Client Sample ID: MW14-07212	4						Lab Sam	ple ID: 280-15	1002 5
Date Collected: 07/21/21 14:10							Lab San	•	: Water
Date Received: 07/23/21 09:20								Matrix	Water
Analyte	Result	Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.052		0.020		ug/L		riopurou	07/28/21 22:46	1
					0				
Surrogate	%Recovery	Qualifier	Limits			-	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	118		50 - 150					07/28/21 22:46	1
TBA-d9 (Surr)	94		50 - 150					07/28/21 22:46	1
Client Sample ID: SW1-072121							Lab Sam	ple ID: 280-15	1093-6
Date Collected: 07/21/21 11:20								-	Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			07/28/21 23:10	1

# **Client Sample Results**

Job ID: 280-151093-1

3 4 5

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

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	125		50 - 150			-		07/28/21 23:10	1
TBA-d9 (Surr)	106		50 - 150					07/28/21 23:10	1
Client Sample ID: SW4-072121 Date Collected: 07/21/21 12:10 Date Received: 07/23/21 09:20							Lab Sam	ple ID: 280-15 Matrix:	51093-7 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			07/28/21 23:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	123		50 - 150			-		07/28/21 23:34	1
TBA-d9 (Surr)	100		50 - 150					07/28/21 23:34	1
Client Sample ID: SW7-072121 Date Collected: 07/21/21 14:00 Date Received: 07/23/21 09:20							Lab Sam	ple ID: 280-15 Matrix:	51093-8 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			07/28/21 23:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	122		50 - 150			-		07/28/21 23:59	1
TBA-d9 (Surr)	101		50 - 150					07/28/21 23:59	1
Client Sample ID: SW6-072121 Date Collected: 07/21/21 13:00							Lab Sam	ple ID: 280-15 Matrix:	51093-9 : Water
Date Received: 07/23/21 09:20 Analyte	Posult	Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND	Quanner	0.020		ug/L		Fiepaleu	07/29/21 00:23	1
Surrogate	%Recovery	Qualifiar	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	122	Quaimer	50 - 150			-	Flepaleu	07/29/21 00:23	<u></u>
TBA-d9 (Surr)	101		50 - 150					07/29/21 00:23	1
Client Sample ID: MW20DD-07	2121						Lab Samp	ole ID: 280-151	093-11
Date Collected: 07/21/21 00:00								Matrix	: Water
Date Received: 07/23/21 09:20						_			
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.053		0.020		ug/L			07/29/21 00:47	1
Surrogate	%Recovery	Qualifier	Limits			-	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	122		50 - 150					07/29/21 00:47	1
TBA-d9 (Surr)	113		50 - 150					07/29/21 00:47	1
Client Sample ID: TB1 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20							Lab Samp	ole ID: 280-151 Matrix:	093-12 : Water
Analyte		Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.020		ug/L			07/29/21 01:11	1
									D// 5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Surrogate Dibromofluoromethane (Surr)	%Recovery 125	Qualifier	Limits 50 - 150			-	Prepared	Analyzed 07/29/21 01:11	DII Fac 1

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

Client Sample ID: MW6-072121 Date Collected: 07/21/21 16:05							Lab Sam	ple ID: 280-1	51166-1 : Water
								Watrix	. water
Date Received: 07/26/21 09:10	Desult	Qualifian	DI.	MDI	11		Dueu eus d	<b>A</b> a la a al	
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed 07/29/21 21:17	Dil Fac
Vinyl chloride	0.056		0.020		ug/L			07729721 21:17	I
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	121		50 - 150					07/29/21 21:17	1
TBA-d9 (Surr)	108		50 - 150					07/29/21 21:17	1
Method: 6020 - Metals (ICP	/MS) - Di	ssolved							
Client Sample ID: MW5-072121							Lab Sam	ple ID: 280-1	51093-1
Date Collected: 07/21/21 10:00									: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		07/26/21 09:20	07/27/21 01:26	1
Client Comple ID: MW7 072424							Lab Cam		E4002 2
Client Sample ID: MW7-072121							Lab Sam	ple ID: 280-1	
Date Collected: 07/21/21 08:10								watrix	: Water
Date Received: 07/23/21 09:20	Desult	Qualifian	Ы	MDI	11		Dueu eus d	A a la a d	
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed 07/27/21 11:06	Dil Fac
Manganese	1.2		1.0		ug/L		07/26/21 09:20	07/27/21 11:06	1
Client Sample ID: MW12I-07212	21						Lab Sam	ple ID: 280-1	51093-3
Date Collected: 07/21/21 11:40								Matrix	: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	27		1.0		ug/L		07/26/21 09:20	07/27/21 01:33	1
Client Sample ID: MW13D-0721	21						Lah Sam	ple ID: 280-1	51093-4
Date Collected: 07/21/21 12:55	21						Lab Gam		: Water
Date Received: 07/23/21 09:20								Matrix	. Water
Analyte	Result	Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.8	guainer	1.0	MDL	ug/L		07/26/21 09:20		1
Client Sample ID: MW14-07212	1						Lab Sam	ple ID: 280-1	
Date Collected: 07/21/21 14:10								Matrix	: Water
Date Received: 07/23/21 09:20									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	870		1.0		ug/L		07/26/21 09:20	07/27/21 01:40	1
Client Sample ID: SW1-072121							Lab Sam	ple ID: 280-1	51093-6
Date Collected: 07/21/21 11:20									: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	ND		1.0		ug/L		07/26/21 09:20	07/27/21 01:44	1
Client Sample ID: SW4-072121							Lah Sam	ple ID: 280-1	51093-7
Date Collected: 07/21/21 12:10							Lus Gall		: Water
Date Received: 07/23/21 09:20								Matin	. mater
Buto NOUGIVOU. U//20/21 UJ.20									
Analyte	Result	Qualifier	RL	וחא	Unit	D	Prepared	Analyzed	Dil Fac

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

Client Sample ID: SW7-072121							Lab Sam	ole ID: 280-15	51093-8
Date Collected: 07/21/21 14:00								Matrix	: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4.9		1.0		ug/L		07/26/21 09:20	07/27/21 10:55	1
Client Sample ID: SW6-072121							Lab Sam	ole ID: 280-15	1093-9
Date Collected: 07/21/21 13:00									: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	89		1.0		ug/L		07/26/21 09:20	07/27/21 01:55	1
Client Sample ID: MW20DD-07212	21						Lab Samp	le ID: 280-151	093-11
Date Collected: 07/21/21 00:00									: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	870		1.0		ug/L		•	07/27/21 01:59	1
Client Sample ID: MW6-072121							Lab Sam	ple ID: 280-15	51166-1
Date Collected: 07/21/21 16:05									: Water
Date Received: 07/26/21 09:10									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	320		1.0		ug/L		07/29/21 16:30	07/30/21 18:33	1
General Chemistry									
_									
Client Sample ID: MW5-072121							Lab Sam	ole ID: 280-15	
Date Collected: 07/21/21 10:00								Matrix	: Water
Date Received: 07/23/21 09:20									
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			07/26/21 19:36	1
Sulfate	7.1		5.0		mg/L			07/26/21 19:36	1
Ammonia as N	ND		0.030		mg/L			07/24/21 12:09	1
Total Alkalinity	77		10		mg/L				
The second se								07/27/21 20:46	1
Bicarbonate Alkalinity	77		10		mg/L			07/27/21 20:46	=
Bicarbonate Alkalinity Carbonate Alkalinity					mg/L mg/L				1
-	77		10		-			07/27/21 20:46	1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121	<b>77</b> ND		10 10		mg/L		Lab Samı	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47	1 1 1 5 <b>1093-2</b>
Carbonate Alkalinity Total Organic Carbon - Average	<b>77</b> ND		10 10		mg/L		Lab Samı	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47	1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121	<b>77</b> ND		10 10		mg/L		Lab Sam	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47	1 1 1 5 <b>1093-2</b>
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte	77 ND 1.1 Result	Qualifier	10 10 1.0 <b>RL</b>	MDL	mg/L	D	Lab Sam	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 ole ID: 280-15 Matrix Analyzed	1 1 1 5 <b>1093-2</b>
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride	77 ND 1.1	Qualifier	10 10 1.0 <b>RL</b> 3.0	MDL	mg/L mg/L	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 ole ID: 280-15 Matrix Analyzed 07/26/21 19:50	1 1 5 <b>1093-2</b> : Water
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte	77 ND 1.1 Result	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0	MDL	mg/L mg/L Unit	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 ole ID: 280-15 Matrix Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N	77 ND 1.1 <u>Result</u> ND	Qualifier	10 10 1.0 <b>RL</b> 3.0	MDL	mg/L mg/L Unit mg/L	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 01e ID: 280-15 Matrix Analyzed 07/26/21 19:50 07/26/21 19:50 07/24/21 12:11	1 1 5 <b>1093-2</b> : Water Dil Fac
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate	77 ND 1.1 Result ND ND	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0	MDL	mg/L mg/L Unit mg/L mg/L	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 01e ID: 280-15 Matrix Analyzed 07/26/21 19:50 07/26/21 19:50	1 1 5 <b>1093-2</b> : Water <u>Dil Fac</u> 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N	77 ND 1.1 Result ND ND ND	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030	MDL	mg/L mg/L mg/L mg/L mg/L	D		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 01e ID: 280-15 Matrix Analyzed 07/26/21 19:50 07/26/21 19:50 07/24/21 12:11	1 1 5 <b>1093-2</b> : Water Dil Fac 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity	77 ND 1.1 Result ND ND ND 140	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> <b>Matrix</b> <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/24/21 12:11 07/27/21 21:26	1 1 5 <b>1093-2</b> : Water Dil Fac 1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity Bicarbonate Alkalinity	77 ND 1.1 Result ND ND ND 140 140	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>		07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> Matrix <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/24/21 12:11 07/27/21 21:26	1 1 5 <b>1093-2</b> : Water 1 1 1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity	77 ND 1.1 Result ND ND 140 ND	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> <b>Matrix</b> <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/26/21 12:11 07/27/21 21:26 07/27/21 21:26	1 1 5 <b>1093-2</b> : Water 1 1 1 1 1 1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Total Organic Carbon - Average	77 ND 1.1 Result ND ND 140 ND	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> Matrix <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/26/21 19:50 07/27/21 21:26 07/27/21 21:26 07/27/21 21:26 07/28/21 01:29 <b>Die ID: 280-15</b>	1 1 31093-2 3003-2 3003-2 31093-3
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW12I-072121	77 ND 1.1 Result ND ND 140 ND	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10 10 10	MDL	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	<u>D</u>	Prepared	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> Matrix <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/26/21 19:50 07/27/21 21:26 07/27/21 21:26 07/27/21 21:26 07/28/21 01:29 <b>Die ID: 280-15</b>	1 1 5 <b>1093-2</b> : Water 1 1 1 1 1 1 1 1 1
Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20 Analyte Chloride Sulfate Ammonia as N Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Total Organic Carbon - Average Client Sample ID: MW12I-072121 Date Collected: 07/21/21 11:40	77 ND 1.1 Result ND ND 140 140 ND 2.5	Qualifier	10 10 1.0 <b>RL</b> 3.0 5.0 0.030 10 10 10		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	D	Prepared	07/27/21 20:46 07/27/21 20:46 07/29/21 23:47 <b>Die ID: 280-15</b> Matrix <b>Analyzed</b> 07/26/21 19:50 07/26/21 19:50 07/26/21 19:50 07/27/21 21:26 07/27/21 21:26 07/27/21 21:26 07/28/21 01:29 <b>Die ID: 280-15</b>	1 1 31093-2 30093-2 30093-2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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**General Chemistry (Continued)** 

Client Sample ID: MW12I-072121 Date Collected: 07/21/21 11:40							Lab Sam	ple ID: 280-15 Matrix	51093-3 : Water
Date Received: 07/23/21 09:20 Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.7		5.0		mg/L		•	07/26/21 21:14	1
Ammonia as N	ND		0.030		mg/L			07/24/21 12:13	1
Total Alkalinity	74		10		mg/L			07/27/21 21:55	1
Bicarbonate Alkalinity	74		10		mg/L			07/27/21 21:55	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 21:55	1
Total Organic Carbon - Average	3.0		1.0		mg/L			07/26/21 18:25	1
Client Sample ID: MW13D-072121							Lab Sam	nple ID: 280-15	51093-4
Date Collected: 07/21/21 12:55								-	: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.7		3.0		mg/L		•	07/26/21 21:28	1
Sulfate	15		5.0		mg/L			07/26/21 21:28	1
Ammonia as N	0.039		0.030		mg/L			07/25/21 15:20	1
Total Alkalinity	79		10		mg/L			07/27/21 21:50	
Bicarbonate Alkalinity	79		10		mg/L			07/27/21 21:50	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 21:50	1
Total Organic Carbon - Average	1.2		1.0		mg/L			07/28/21 01:44	· · · · · · 1
					-		Lab Car		4002 5
Client Sample ID: MW14-072121							Lab San	ple ID: 280-15	
Date Collected: 07/21/21 14:10								Matrix	: Water
Date Received: 07/23/21 09:20	<b>D</b> !!	0			11	-	<b>B</b>	A	<b>D</b> !! <b>F</b>
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	4.9		3.0		mg/L			07/26/21 21:42	1
Sulfate	8.2		5.0		mg/L			07/26/21 21:42	1
Ammonia as N	ND		0.030		mg/L			07/24/21 12:17	1
Total Alkalinity	91		10		mg/L			07/27/21 20:34	1
Bicarbonate Alkalinity	91		10		mg/L			07/27/21 20:34	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 20:34	1
Total Organic Carbon - Average	3.1		1.0		mg/L			07/28/21 01:59	1
Client Sample ID: SW1-072121 Date Collected: 07/21/21 11:20							Lab Sam	ple ID: 280-15	
Date Received: 07/23/21 09:20								watrix	: Water
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	4.1		3.0		mg/L			07/26/21 21:56	1
Sulfate	8.4		5.0		mg/L			07/26/21 21:56	1
Ammonia as N	ND		0.030		mg/L			07/24/21 12:25	1
Total Alkalinity	81		10		mg/L			07/27/21 20:40	1
Bicarbonate Alkalinity	81		10		mg/L			07/27/21 20:40	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 20:40	1
Total Organic Carbon - Average	2.0		1.0		mg/L			07/26/21 19:09	1
Client Sample ID: SW4-072121							Lab Sam	nple ID: 280-15	51093-7
Date Collected: 07/21/21 12:10									: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		3.0		mg/L			07/26/21 22:10	1
					-				
Sulfate	23		5.0		mg/L			07/26/21 22:10	1

Ammonia as N

**Total Alkalinity** 

**Bicarbonate Alkalinity** 

## **General Chemistry (Continued)**

Client Sample ID: SW4-072121

Job	ID:	280-	151	093-1	1

Lab Sample ID: 280-151093-7

5 8

Date Collected: 07/21/21 12:10							Lab San	Matrix	: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity	180		10		mg/L			07/27/21 21:44	1
Bicarbonate Alkalinity	180		10		mg/L			07/27/21 21:44	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 21:44	1
Total Organic Carbon - Average	3.9		1.0		mg/L			07/26/21 19:23	1
Client Sample ID: SW7-072121							Lab Sam	ple ID: 280-15	51093-8
Date Collected: 07/21/21 14:00								· ·	: Water
Date Received: 07/23/21 09:20									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.2		3.0		mg/L		•	07/26/21 22:24	1
Sulfate	5.9		5.0		mg/L			07/26/21 22:24	1
Ammonia as N	ND		0.030		mg/L			07/24/21 12:47	1
Total Alkalinity	73		10		mg/L			07/27/21 21:38	1
Bicarbonate Alkalinity	73		10		mg/L			07/27/21 21:38	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 21:38	1
Total Organic Carbon - Average	6.8		1.0		mg/L			07/26/21 19:38	
Client Sample ID: SW6-072121							Lah Sar	ple ID: 280-15	1002.0
Date Collected: 07/21/21 13:00							Lab San	•	: Water
Date Received: 07/23/21 09:20								Watrix	. water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.4		3.0		mg/L		Topulou	07/26/21 22:38	1
Sulfate	ND		5.0		mg/L			07/26/21 22:38	1
Ammonia as N	0.067		0.030		mg/L			07/25/21 14:34	1
Fotal Alkalinity	77		10		mg/L			07/27/21 20:23	
Bicarbonate Alkalinity	77		10		mg/L			07/27/21 20:23	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 20:23	1
Total Organic Carbon - Average	9.9		1.0		mg/L			07/26/21 20:22	1
Client Sample ID: MW20DD-0721	21						l ah Sami	ole ID: 280-151	1093-11
Date Collected: 07/21/21 00:00	21						Lab Gaing		: Water
Date Received: 07/23/21 09:20								Matrix	. Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.7		3.0		mg/L			07/26/21 22:52	1
Sulfate	8.2		5.0		mg/L			07/26/21 22:52	1
Ammonia as N	ND		0.030		mg/L			07/24/21 13:35	1
Total Alkalinity	90		10		mg/L			07/27/21 20:29	
Bicarbonate Alkalinity	90		10		mg/L			07/27/21 20:29	1
Carbonate Alkalinity	ND		10		mg/L			07/27/21 20:29	1
Total Organic Carbon - Average	2.9		1.0		mg/L			07/28/21 02:13	1
Client Sample ID: MW6-072121							Lah San	וple ID: 280-1	51166-1
Date Collected: 07/21/21 16:05								-	: Water
Date Received: 07/26/21 09:10								Maula	. mater
Analyte	Rocult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.6		3.0		mg/L		Tepateu	07/28/21 20:00	1
Sulfate	3. <b>6</b> 17		5.0		mg/L			07/28/21 20:00	1
	11		0.0		ing/L			07/20/21 20.00	1

Eurofins TestAmerica, Denver

07/27/21 12:51

07/28/21 01:21

07/28/21 01:21

0.030

10

10

mg/L

mg/L

mg/L

ND

150

**150** 

1

1

1

# **General Chemistry (Continued)**

Client Sample ID: MW6-072121 Date Collected: 07/21/21 16:05 Date Received: 07/26/21 09:10							Lab San	nple ID: 280-15 Matrix	51166-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity	ND		10		mg/L			07/28/21 01:21	1
Total Organic Carbon - Average	2.0		1.0		mg/L			07/28/21 00:45	1

# **Surrogate Summary**

Prep Type: Total/NA

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

		DDFH		rcent Surrogate Recovery (Acceptance Limits)	
		DBFM	TBA		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)		
280-151093-1	MW5-072121	118	106		
280-151093-2	MW7-072121	121	105		
280-151093-3	MW12I-072121	119	97		
280-151093-4	MW13D-072121	122	113		
280-151093-5	MW14-072121	118	94		
280-151093-6	SW1-072121	125	106		
280-151093-7	SW4-072121	123	100		
280-151093-8	SW7-072121	122	101		
280-151093-9	SW6-072121	122	101		
280-151093-11	MW20DD-072121	122	113		
280-151093-12	TB1	125	116		
280-151166-1	MW6-072121	121	108		
480-187724-I-3 MS	Matrix Spike	105	72		
480-187724-I-3 MSD	Matrix Spike Duplicate	102	79		
LCS 480-590818/6	Lab Control Sample	101	80		
LCS 480-590980/6	Lab Control Sample	105	86		
LCSD 480-590818/7	Lab Control Sample Dup	102	83		
LCSD 480-590980/7	Lab Control Sample Dup	104	87		
MB 480-590818/9	Method Blank	115	95		
MB 480-590980/9	Method Blank	119	102		
Surrogate Legend					

DBFM = Dibromofluoromethane (Surr)

TBA = TBA-d9 (Surr)

Project/Site: Hansville Landfill

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

Lab Sample ID: MB 480-5	90818/9						Clie	nt Sam	ple ID: Metho	d Blan
Matrix: Water									· Prep Type: T	
Analysis Batch: 590818										
-	1	MB MB								
Analyte	Res	ult Qualifier	RL	MD	L Unit	D	P	repared	Analyzed	Dil Fa
Vinyl chloride		ND	0.020		ug/L			-	07/28/21 20:20	
•		MB MB					_			
Surrogate	%Recov	<u> </u>					P	repared	Analyzed	Dil Fa
Dibromofluoromethane (Surr)		115	50 - 150						07/28/21 20:20	
TBA-d9 (Surr)		95	50 - 150						07/28/21 20:20	
Lab Sample ID: LCS 480-	500949/6					Clior	t Sar		Lab Control	Sampl
Matrix: Water	590010/0					Cilei	it Sai	inple iD.	Lab Control : Prep Type: T	
									Fieh Type. I	
Analysis Batch: 590818			Spike	LCS L	~~				%Rec.	
Analyta			Added	-		Unit	<b>_</b>	% <b>B</b> aa	%Rec. Limits	
Analyte /inyl chloride			0.200	Result Q 0.216	uailiier		<u>D</u>		50 - 150	
viriyi chionde			0.200	0.210		ug/L		108	50 - 150	
	LCS	LCS								
Surrogate	%Recovery	Qualifier	Limits							
Dibromofluoromethane (Surr)	101		50 - 150							
TBA-d9 (Surr)	80		50 - 150							
_ab Sample ID: LCSD 480	0-590818/7				C	lient Sa	nple	ID: Lab	<b>Control Sam</b>	ole Du
Matrix: Water							· ·		Prep Type: T	
Analysis Batch: 590818										
			Spike	LCSD L	CSD				%Rec.	RP
Analyte			Added	Result Q	ualifier	Unit	D	%Rec	Limits RPI	D Lin
-				<b>Result Q</b>	ualifier		D	<b>%Rec</b>		
-			Added	Result Q	ualifier	Unit ug/L	D			
/inyl chloride	LCSD				ualifier		<u>D</u>			
Vinyl chloride Surrogate	LCSD %Recovery		0.200		ualifier		<u>D</u>			
Vinyl chloride Surrogate Dibromofluoromethane (Surr)			0.200		ualifier		<u>D</u>			
Vinyl chloride Surrogate Dibromofluoromethane (Surr)	%Recovery		0.200		ualifier		<u>D</u>			
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr)	% <b>Recovery</b> 102 83		0.200 Limits 50 - 150		ualifier			111	50 - 150	3 2
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5	% <b>Recovery</b> 102 83		0.200 Limits 50 - 150		ualifier			111	50 - 150	3 2 d Blan
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water	% <b>Recovery</b> 102 83		0.200 Limits 50 - 150		ualifier_			111	50 - 150	3 2
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water	%Recovery 102 83 90980/9	Qualifier	0.200 Limits 50 - 150		ualifier			111	50 - 150	3 2
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water	%Recovery 102 83 90980/9		0.200 Limits 50 - 150 50 - 150		ualifier_			111	50 - 150	d Blan otal/N
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte	%Recovery 102 83 90980/9	Qualifier MB MB ult Qualifier	0.200 Limits 50 - 150 50 - 150 	0.222	L Unit		Clie	111	50 - 150 ple ID: Method Prep Type: T Analyzed	d Blan otal/N
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte	%Recovery 102 83 90980/9	Qualifier	0.200 Limits 50 - 150 50 - 150	0.222		ug/L	Clie	111	50 - 150 ple ID: Method Prep Type: T	d Blan otal/N
Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride	- <u>%Recovery</u> 102 83 90980/9	Qualifier MB MB ult Qualifier	0.200 Limits 50 - 150 50 - 150 	0.222	L Unit	ug/L	Clie	111	50 - 150 ple ID: Method Prep Type: T Analyzed	d Blan otal/N
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride	- <u>%Recovery</u> 102 83 90980/9	Qualifier MB MB ult Qualifier ND MB MB	0.200 Limits 50 - 150 50 - 150 	0.222	L Unit	ug/L	Clie	ent Sam	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53	d Blan otal/N Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate	%Recovery 102 83 90980/9 I Res %Recov	Qualifier MB MB ult Qualifier ND MB MB MB ery Qualifier	0.200 Limits 50 - 150 50 - 150 	0.222	L Unit	ug/L	Clie	111	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 Analyzed	d Blan otal/N Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr)	%Recovery 102 83 90980/9 Res %Recovery	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 50 - 150 RL 0.020 Limits 50 - 150	0.222	L Unit	ug/L	Clie	ent Sam	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 Analyzed 07/29/21 20:53	d Blan otal/N Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr)	%Recovery 102 83 90980/9 Res %Recovery	Qualifier MB MB ult Qualifier ND MB MB MB ery Qualifier	0.200 Limits 50 - 150 50 - 150 	0.222	L Unit	ug/L	Clie	ent Sam	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 Analyzed	d Blan otal/N Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr)	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 50 - 150 RL 0.020 Limits 50 - 150	0.222	L Unit	ug/L	Clie	repared	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 07/29/21 20:53 07/29/21 20:53	d Blan otal/N Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: LCS 480-	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 50 - 150 RL 0.020 Limits 50 - 150	0.222	L Unit	ug/L	Clie	repared	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 07/29/21 20:53 07/29/21 20:53 07/29/21 20:53 07/29/21 20:53	d Blan otal/N Dil Fa Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: LCS 480- Matrix: Water	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 50 - 150 RL 0.020 Limits 50 - 150	0.222	L Unit	ug/L	Clie	repared	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 07/29/21 20:53 07/29/21 20:53	d Blan otal/N Dil Fa Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: LCS 480- Matrix: Water	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 	0.222 MD	P <mark>L Unit</mark> ug/L	ug/L	Clie	repared	50 - 150 ple ID: Method Prep Type: T <u>Analyzed</u> 07/29/21 20:53 <u>Analyzed</u> 07/29/21 20:53 07/29/21 20:53 120 Control 3 Prep Type: T	d Blan otal/N Dil Fa Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: LCS 480- Matrix: Water Analysis Batch: 590980	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 50 - 150 	0.222 MD	L Unit ug/L	ug/L	Clie Pi Pi	nt Sam	50 - 150 ple ID: Method Prep Type: T Analyzed 07/29/21 20:53 07/29/21 20:54 07/29/21 20:54 07/29/21 07/29/21 07/29/21 07/29/21 07/2	d Blan otal/N Dil Fa Dil Fa
Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: MB 480-5 Matrix: Water Analysis Batch: 590980 Analyte Vinyl chloride Surrogate Dibromofluoromethane (Surr) TBA-d9 (Surr) Lab Sample ID: LCS 480- Matrix: Water	%Recovery           102           83           90980/9           I           Res           %Recover	MB MB ult Qualifier ND Qualifier MB MB ery Qualifier 119	0.200 Limits 50 - 150 50 - 150 	0.222 MD	L Unit ug/L	ug/L	Clie	repared	50 - 150 ple ID: Method Prep Type: T <u>Analyzed</u> 07/29/21 20:53 <u>Analyzed</u> 07/29/21 20:53 07/29/21 20:53 120 Control 3 Prep Type: T	d Blan otal/N Dil Fa Dil Fa

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

Lab Sample ID: LCS 480-	590980/6							Clien	t Sai	mple ID	: Lab Cor			
Matrix: Water Analysis Batch: 590980											Prep Ty	he: IC	JIdl/	AN
,	109	LCS												
Surrogate	%Recovery		Limits											
Dibromofluoromethane (Surr)	105	Quanner	50 - 150											
TBA-d9 (Surr)	86		50 - 150 50 - 150											
Lab Sample ID: LCSD 480	1-590980/7						0	liont Sar	nnlo	ID: Lab	Control	Samn		)r
Matrix: Water	-330300/7							ment Sai	inhie	ID. Lau	Prep Ty			
Analysis Batch: 590980														
			Spike		LCSD						%Rec.			RPE
Analyte			Added		Result		lifier	Unit	D	%Rec	Limits	RPD		.imi
Vinyl chloride			0.200		0.218			ug/L		109	50 - 150	2	2	20
	LCSD	LCSD												
Surrogate	%Recovery		Limits											
Dibromofluoromethane (Surr)	104		50 - 150											
TBA-d9 (Surr)	87		50 - 150											
Lab Sample ID: 480-1877	24-I-3 MS								CI	lient Sa	mple ID: I			
Matrix: Water Analysis Batch: 590980											Prep Ty	he: IC	JIdl/	IN/
Analysis Batch. 590900														
	MS	MS												
Surrogate	%Recovery	Qualifier	Limits											
Dibromofluoromethane (Surr)	105		50 - 150											
TBA-d9 (Surr)	72		50 - 150											
Lab Sample ID: 480-1877								Client S	amn		latrix Spil	κο Οιι	nlic	ato
Matrix: Water	24-1-5 1000							onent o	amp		Prep Ty			
Analysis Batch: 590980											i i cp i y	pc. rc		11/
	MSD													
Surrogate	%Recovery	Qualifier	Limits											
Dibromofluoromethane (Surr)	102		50 - 150											
TBA-d9 (Surr)	79		50 - 150											
/lethod: 6020 - Metals	(ICP/MS)													
Lab Sample ID: MB 280-5	44189/1_A								Clic	ont Sam	ple ID: M	othod		anl
Matrix: Water											be: Total			
Analysis Batch: 544402										ועיקסי	Prep Ba			
		МВ МВ									i ish De			
Analyte	Re	sult Qualifier		RL		MDL	Unit	D	Р	repared	Analyz	zed	Dil	Fa
Manganese		ND		1.0			ug/L	=		-	07/27/21			1
Ŭ				-			0					-		
Lab Sample ID: LCS 280-	544189/2-A							Clien	it Sai	mple ID	: Lab Cor	ntrol S	Sam	ple
Matrix: Water									F	Prep Ty	be: Total l	Recov	/era	ble
Analysis Batch: 544402											Prep Ba	atch: {	5441	189
			Spike		LCS	LCS					%Rec.			
			A .1.1			~			-	A/ =	1.1			
Analyte			Added		Result	Qua	litier	Unit	D	%Rec	Limits			

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Job ID: 280-151093-1

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Lab Sample ID: MB 280-544	1692/1-A								ole ID: Meth		
Matrix: Water							F	rep Typ	e: Total Re		
Analysis Batch: 544955									Prep Batc	n: 54	4692
Analyte	D/	MB MB sult Qualifier		RL	MDL Unit	D	Б	roporod	Analyzad		Dil Fac
Manganese	Ke			1.0				repared	Analyzed		
		ND		1.0	ug/L		0112	.9/21 10.30	07/30/21 10.	20	
Lab Sample ID: LCS 280-54	4692/2-A					Clien	it Sai	mple ID:	Lab Contro	ol Sa	mple
Matrix: Water									e: Total Re		
Analysis Batch: 544955									<b>Prep Batc</b>		
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Manganese			40.0	40.3		ug/L		101	85 - 117		
Lab Sample ID: 280-150781	-B-6-B MS						CI	lient San	nple ID: Ma	trix \$	Spike
Matrix: Water								F	Prep Type:	Diss	olved
Analysis Batch: 544402									<b>Prep Batc</b>	h: <b>5</b> 4	4189
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added		Qualifier	Unit	D	%Rec	Limits		
Manganese	1500		40.0	1580	4	ug/L		162	85 - 117		
Lab Sample ID: 280-150781	-B-6-C MS	D				Client S	amp		atrix Spike		
Matrix: Water								F	Prep Type:		
Analysis Batch: 544402									Prep Batc	h: 54	
	•	Sample	Spike		MSD				%Rec.		RPD
Analyte		Qualifier	Added		Qualifier	Unit	D	%Rec		RPD	Limi
Manganese	1500		40.0	1570	4	ug/L		135	85 - 117	1	20
Lab Sample ID: 280-151166	-1 MS						CI		ple ID: MV		
								F	rep Type:		
Matrix: Water									Prep Batc	h: 54	4692
									%Rec.		
Matrix: Water Analysis Batch: 544955	•	Sample	Spike	_	MS		_	~·-			
Matrix: Water Analysis Batch: 544955 Analyte	Result	Sample Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Matrix: Water Analysis Batch: 544955 Analyte	•	•	•	_	Qualifier	Unit ug/L	<u>D</u>	%Rec 77	Limits 85 - 117		
Matrix: Water Analysis Batch: 544955 Analyte Manganese Lab Sample ID: 280-151166	<b>Result</b> 320	•	Added	Result	Qualifier			<sup>77</sup>	85 - 117		
Matrix: Water Analysis Batch: 544955 Analyte Manganese Lab Sample ID: 280-151166 Matrix: Water	<b>Result</b> 320	•	Added	Result	Qualifier			<sup>77</sup>	85 - 117 Nple ID: MW Prep Type:	Diss	olved
Matrix: Water Analysis Batch: 544955 Analyte Manganese Lab Sample ID: 280-151166	Result 320 6-1 MSD	Qualifier	Added 40.0	Result 349	Qualifier 4			<sup>77</sup>	85 - 117 Prep ID: MW Prep Type: Prep Batc	Diss	olvec 14692
Matrix: Water Analysis Batch: 544955 Analyte Manganese Lab Sample ID: 280-151166 Matrix: Water Analysis Batch: 544955	Result 320 5-1 MSD Sample	Qualifier	Added 40.0 Spike	Result 349 MSD	Qualifier 4 MSD	ug/L	– – CI	ient Sam	85 - 117 Prep ID: MW Prep Type:   Prep Batc %Rec.	Disso h: 54	olvec 14692 RPE
Matrix: Water Analysis Batch: 544955 Analyte Manganese Lab Sample ID: 280-151166 Matrix: Water	Result 320 5-1 MSD Sample	Qualifier	Added 40.0	Result 349 MSD	Qualifier 4 MSD Qualifier			<sup>77</sup>	85 - 117 Prep ID: MW Prep Type:   Prep Batc %Rec.	Diss	olvec 14692

Lab Sample ID: MB 280-54432 Matrix: Water Analysis Batch: 544320	20/6					(	Client Sam	ple ID: Methoo Prep Type: To	
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0		mg/L			07/26/21 14:59	1
Sulfate	ND		5.0		mg/L			07/26/21 14:59	1

# Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-54 Matrix: Water	4320/4					Clie	ent Sai	mple ID	: Lab Cor Prep Ty		
Analysis Batch: 544320											
			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride			100	97.9		mg/L		98	90 - 110		
Sulfate			100	99.8	1	mg/L		100	90 - 110		
Lab Sample ID: LCSD 280-5	44320/5				C	Client Sa	ample	ID: Lat	o Control	Sampl	e Dup
Matrix: Water									Prep Ty	pe: To	tal/NA
Analysis Batch: 544320											
-			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride			100	97.8		mg/L		98	90 - 110	0	10
Sulfate			100	99.7	,	mg/L		100	90 - 110	0	10
_ Lab Sample ID: MRL 280-54	4320/3					Clie	ent Sai	mple ID	: Lab Cor	trol S	ample
Matrix: Water									Prep Ty		
Analysis Batch: 544320											
			Spike	MRL	MRL				%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			5.00	4.62		mg/L		92	50 - 150		
Sulfate			5.00	ND		mg/L		88	50 - 150		
			5.00	ND		ilig/L		00	50 - 150		
Lab Sample ID: 280-151093	-2 MS						CI	ient Sa	mple ID: N	/W7-0	72121
Matrix: Water									Prep Ty	pe: To	tal/NA
Analysis Batch: 544320											
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	ND		50.0	49.4		mg/L		99	80 - 120		
Sulfate	ND		50.0	49.5	i	mg/L		94	80 - 120		
Lab Sample ID: 280-151093 Matrix: Water	-2 MSD						CI	ient Sa	mple ID: M Prep Ty		
Analysis Batch: 544320											
· ·····, · · · · · · · · · · · · · · ·	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	ND		50.0	48.8		mg/L		98	80 - 120	1	20
Sulfate	ND		50.0	49.4		mg/L		94	80 - 120	0	20
Lab Sample ID: 280-151093 Matrix: Water	-2 DU						CI	ient Sa	mple ID: M Prep Ty		
									Fieh iy	pe. 10	
Analysis Batch: 544320	Samula	Sample			DU						DDD
Apolyto		Sample Qualifier				11-14				000	RPD
Analyte Chloride	ND	Qualifier		Result	Qualifier		D			RPD NC	Limit 15
Sulfate	ND ND			ND		mg/L mg/L				NC	15
_						U	•				
Lab Sample ID: MB 280-544	552/6						CIIE	ent San	nple ID: M Prep Ty		
Matrix: Water									i ich ið	pe. 10	
Matrix: Water											
Matrix: Water Analysis Batch: 544552		MR MR									
Analysis Batch: 544552	Dr	MB MB		RI			<u>а</u> п	ronarod	Analyz	rod .	Dil Fac
	Re	MB MB esult Qualifier		RL 3.0	MDL Unit		<u>D</u> P	repared	<b>Analyz</b> 07/28/21		Dil Fac

Eurofins TestAmerica, Denver

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LCS LCS

LCSD LCSD

MRL MRL

4.12

ND

Result Qualifier

102

97.0

**Result Qualifier** 

101

96.7

Result Qualifier

Unit

mg/L

mg/L

Unit

mg/L

mg/L

Unit

Spike

Added

100

100

Spike

Added

100

100

Spike

Added

5.00

5.00

Analysis Batch: 544552

Analysis Batch: 544552

Analysis Batch: 544552

**Matrix: Water** 

Matrix: Water

**Matrix: Water** 

Matrix: Water

Analyte

Chloride

Sulfate

Analyte

Chloride

Sulfate

Analyte

Chloride

Sulfate

Lab Sample ID: LCS 280-544552/4

Lab Sample ID: LCSD 280-544552/5

Lab Sample ID: MRL 280-544552/3

Lab Sample ID: 280-150655-A-1 MS

Method: 300.0 - Anions, Ion Chromatography

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

RPD

0

0

**Client Sample ID: Lab Control Sample** 

D %Rec

D %Rec

102

97

101

97

Client Sample ID: Lab Control Sample Dup

%Rec.

Limits

90 - 110

90 - 110

%Rec.

Limits

90 - 110

90 - 110

**Client Sample ID: Lab Control Sample** 

10

RPD

Limit

10

10

nt	Sample	ID:	Matrix	Spike	
	Dro	n T	mo: To	tal/NA	

#### D %Rec Limits mg/L 82 50 - 150 85 mg/L 50 - 150 Clie

**Client Sample ID: Matrix Spike Duplicate** 

%Rec.

# ιyμ

Prep Type: Total/NA

Prep Type: Total/NA

**Client Sample ID: Duplicate** 

Analysis Batch: 544552										
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	ND		50.0	53.1		mg/L		103	80 - 120	 
Sulfate	8.7		50.0	60.6		mg/L		104	80 - 120	

Lab Sample ID: 280-150655-A-1 MSD
Matrix: Water
Analysis Batch: 544552

-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chloride	ND		50.0	53.3		mg/L		104	80 - 120	0	20
Sulfate	8.7		50.0	61.1		mg/L		105	80 - 120	1	20

### Lab Sample ID: 280-150655-A-1 DU **Matrix: Water**

Analysis Batch: 544552

	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Chloride	ND		ND		mg/L		 NC	15
Sulfate	8.7		8.73		mg/L		0.2	15

# **QC Sample Results**

Job ID: 280-151093-1

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# Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 280-5 Matrix: Water	44216/55									CI	ie	nt Sam	ple ID: Mo Prep Tyj		
Analysis Batch: 544216															
		МВ МЕ	3												
Analyte	Res	sult Qu	alifier		RL	I	MDL	Unit		D	Pr	epared	Analyz	ed	Dil Fac
Ammonia as N		ND			0.030			mg/L					07/24/21	11:33	1
Lab Sample ID: MB 280-5 Matrix: Water	44216/90									CI	ie	nt Sam	ple ID: Mo Prep Tyj		
Analysis Batch: 544216		мв ме	3												
Analyte		sult Qu			RL		MDL	Unit		D	Pr	epared	Analyz	ed	Dil Fac
Ammonia as N		ND			0.030			mg/L					07/24/21		1
Lab Sample ID: LCS 280- Matrix: Water Analysis Batch: 544216	544216/53								Cli	ient Sa	an	nple ID:	Lab Con Prep Tyj		
				Spike		LCS	LCS						%Rec.		
Analyte				Added		Result	Qua	lifier	Unit	0	)	%Rec	Limits		
Ammonia as N	· ·			2.50		2.34			mg/L			94	90 - 110		
Lab Sample ID: LCS 280- Matrix: Water Analysis Batch: 544216	544216/88								Cli	ient Sa	an	nple ID:	Lab Con Prep Tyj		
				Spike		LCS	LCS	i					%Rec.		
Analyte				Added		Result	Qua	lifier	Unit	0	)	%Rec	Limits		
Ammonia as N				2.50		2.58			mg/L		_	103	90 - 110		
Lab Sample ID: LCSD 280 Matrix: Water Analysis Batch: 544216	)-544216/54							C	lient S	Sampl	e I	ID: Lab	Control S Prep Tyj		
				Spike		LCSD	LCS	D					%Rec.		RPD
Analyte				Added		Result	Qua	lifier	Unit	0	)	%Rec	Limits	RPD	Limit
Ammonia as N				2.50		2.42			mg/L			97	90 - 110	4	10
Lab Sample ID: LCSD 280 Matrix: Water Analysis Batch: 544216	)-544216/89							C	lient S	Sampl	e I	ID: Lab	Control S Prep Tyj		
				Spike		LCSD	LCS	D					%Rec.		RPD
Analyte				Added		Result	Qua	lifier	Unit		)	%Rec	Limits	RPD	
Ammonia as N				2.50		2.62			mg/L			105	90 - 110	2	10
Lab Sample ID: 280-15109 Matrix: Water Analysis Batch: 544216	93-11 MS									Clien	t S	Sample	ID: MW2 Prep Tyj		
	Sample			Spike		MS	MS						%Rec.		
Analyte	Result	Qualifie	er	Added		Result	Qua	lifier	Unit		)	%Rec	Limits		
Ammonia as N	ND			1.00		1.03			mg/L			101	90 - 110		
Lab Sample ID: 280-15109 Matrix: Water Analysis Batch: 544216		0		Queilles						Clien	t S	Sample	ID: MW2 Prep Tyj		tal/NA
Analyto	Sample			Spike			MSE		l Ini+		`	%Pac	%Rec.	חחם	RPD Limit
Analyte Ammonia as N	Result ND	Quailitie	#r	<b>Added</b> 1.00		Result 1.02	Qua	mer	Unit mg/L	[	, 	<b>%Rec</b> 100	Limits 90 - 110	1	Limit 10
	UN			1.00		1.02			my/∟			100	30-110	1	10

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# Method: 350.1 - Nitrogen, Ammonia

Matrix: Water	4234/20						Clie	ent Sam	ple ID: Meth Prep Type:		
Analysis Batch: 544234									1100 1900.	Total	
-		MB MB									
Analyte	Re	sult Qualifier	RL		MDL Unit		<u>D</u> P	Prepared	Analyzed	Dil	Fac
Ammonia as N		ND	0.030		mg/L	-			07/25/21 13:5	56	1
Lab Sample ID: LCS 280-54 Matrix: Water	44234/18					CI	ient Sa	mple ID	: Lab Contro Prep Type:		
Analysis Batch: 544234											
Analyte			Spike Added	-	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia as N		··	2.50	2.44	quamer	mg/L		98	90 - 110		
Lab Sample ID: LCSD 280- Matrix: Water	544234/19					Client	Sample	D: Lat	Control Sar Prep Type:		
Analysis Batch: 544234									Flep type.	Total	
			Spike	LCSD	LCSD				%Rec.	R	RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits R	PD Li	.imit
Ammonia as N			2.50	2.46		mg/L		98	90 - 110	1	10
Lab Sample ID: 280-151093 Matrix: Water	3-4 MS						Clier	nt Samp	le ID: MW13 Prep Type:		
Analysis Batch: 544234											
	Sample	•	Spike		MS		_	~-	%Rec.		
Analyte Ammonia as N	0.039	Qualifier	Added	0.939	Qualifier	- Unit mg/L	D	%Rec 90	Limits 90 - 110		
Lab Sample ID: 280-151093 Matrix: Water	3-4 MSD						Clier	nt Samp	le ID: MW13		
Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234	3-4 MSD Sample	Sample	Spike	MSD	MSD		Clier	nt Samp	le ID: MW13 Prep Type: %Rec.	Total/	/NA
Matrix: Water	Sample Result	Sample Qualifier	Added	Result	MSD Qualifier	Unit	Clier		Prep Type: %Rec. Limits R	Total/	
Matrix: Water Analysis Batch: 544234	Sample	•	•	-	-	_ <mark>Unit</mark> mg/L			Prep Type: %Rec.	Total/	/ <mark>NA</mark> RPD
Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water	Sample Result 0.039	•	Added	Result	-		<u>D</u>	<b>%Rec</b> 90	Prep Type: %Rec. Limits R	Total/ R 2PD Li 0 6-0721	(NA RPD .imit 10 121
Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093	Sample Result 0.039 3-9 MS	Qualifier	Added	<b>Result</b> 0.939	Qualifier		<u>D</u>	<b>%Rec</b> 90	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type:	Total/ R 2PD Li 0 6-0721	(NA RPD .imit 10
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234	Sample Result 0.039 3-9 MS Sample	Qualifier	Added 1.00 Spike	Result 0.939 MS	Qualifier MS	mg/L	<u>D</u> C	%Rec 90	Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec.	Total/ R 2PD Li 0 6-0721	(NA RPD .imit 10
Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water	Sample Result 0.039 3-9 MS Sample	Qualifier	Added	Result 0.939 MS	Qualifier	mg/L	<u>D</u>	%Rec 90	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type:	Total/ R 2PD Li 0 6-0721	(NA RPD .imit 10
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water	Sample Result 0.039 3-9 MS Sample Result 0.067	Qualifier	Added 1.00 Spike Added	Result 0.939 MS Result	Qualifier MS	mg/L	D C	%Rec           90           lient Sa           %Rec           97	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type: %Rec. Limits	Total// F CPD 6-0721 Total// 6-0721	(NA RPD imit 10 121 (NA 121
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093	Sample Result 0.039 3-9 MS Sample Result 0.067 3-9 MSD	Qualifier Sample Qualifier	Added 1.00 Spike Added 1.00	Result 0.939 MS Result 1.04	Qualifier MS Qualifier	mg/L	D C	%Rec           90           lient Sa           %Rec           97	Prep Type: %Rec. Limits F 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type:	Total// R PD 6-0721 Total// 6-0721 Total//	(NA RPD .imit 10 121 (NA 121 (NA
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234	Sample Result 0.039 3-9 MS Sample Result 0.067 3-9 MSD Sample	Qualifier	Added 1.00 Spike Added 1.00 Spike	Result 0.939 MS Result 1.04	Qualifier MS Qualifier MSD	Unit mg/L	D C D C	%Rec 90 lient Sa <u>%Rec</u> 97 lient Sa	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec.	Total// F CPD Li 0 6-0721 Total// 6-0721 Total// F	(NA RPD .imit 10 121 (NA 121 (NA RPD
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water	Sample Result 0.039 3-9 MS Sample Result 0.067 3-9 MSD Sample	Qualifier Sample Qualifier	Added 1.00 Spike Added 1.00	Result 0.939 MS Result 1.04	Qualifier MS Qualifier	mg/L	D C	%Rec 90 lient Sa <u>%Rec</u> 97 lient Sa	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec.	Total// F CPD Li 0 6-0721 Total// 6-0721 Total// F	(NA RPD .imiti 10 121 (NA 121 (NA RPD .imiti
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analyte	Sample Result 0.039 3-9 MS Sample Result 0.067 3-9 MSD Sample Result 0.067	Qualifier	Added 1.00 Spike Added 1.00 Spike Added	Result 0.939 MS Result 1.04 MSD Result	Qualifier MS Qualifier MSD	Unit Unit	D C D C	%Rec 90 lient Sa %Rec 97 lient Sa %Rec 97	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec. Limits R	Fill         Fill           EPD         Li           0         -           6-0721         Total/           Fill         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           6-0721         -           600         -           1         -           000         Bla	(NA RPD .imit 10 121 (NA 121 (NA RPD .imit 10 ank
Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Ammonia as N Lab Sample ID: 280-151093 Matrix: Water Analysis Batch: 544234 Analysis Batch: 544234 Analyte Ammonia as N Lab Sample ID: MB 280-544 Matrix: Water	Sample Result 0.039 3-9 MS Sample Result 0.067 3-9 MSD Sample Result 0.067 4490/20	Qualifier	Added 1.00 Spike Added 1.00 Spike Added	Result 0.939 MS Result 1.04 MSD Result 1.04	Qualifier MS Qualifier MSD	Unit mg/L Unit mg/L	D C D C D	%Rec 90 lient Sa %Rec 97 lient Sa %Rec 97	Prep Type: %Rec. Limits R 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec. Limits 90 - 110 mple ID: SW Prep Type: %Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. Limits Rec. MRec. Limits Rec. Limits Rec. Limits Rec. MRec. Limits Rec. Rec. Limits Rec. Limits Rec. Rec. MRec. Rec.	Total// F CPD Li 6-0721 Total// 6-0721 Total// F CPD Li 1 0d Bla Total//	(NA RPD .imit 10 121 (NA 121 (NA RPD .imit 10 ank

Method: 350.1 - Nitrogen, A	Ammonia
Lab Sample ID: LCS 280-5444	90/18

Lab Sample ID: LCS 280-5	44490/18								Cli	ent	Sar	inple iD	: Lab Cor		
Matrix: Water													Prep Ty	pe: To	tal/NA
Analysis Batch: 544490				Cuilto		LCS	1.00						%Rec.		
Analyto				Spike Added		Result			Unit		D	%Rec	%Rec. Limits		
Analyte Ammonia as N				2.50		2.55	Qua	imer	mg/L		<u> </u>	102	90 - 110		
									-						
Lab Sample ID: LCSD 280- Matrix: Water	-544490/19							С	lient S	Sam	ple	ID: Lab	Control S Prep Ty		
Analysis Batch: 544490															
				Spike		LCSD							%Rec.		RPD
Analyte				Added		Result	Qua	lifier	Unit		<u>D</u>	%Rec	Limits	RPD	Limi
Ammonia as N				2.50		2.51			mg/L			100	90 - 110	2	10
Lab Sample ID: 280-15088 Matrix: Water	1-A-10 MS										CI	ient Sa	mple ID: I Prep Ty		
Analysis Batch: 544490															
	Sample	Sam	nple	Spike		MS	MS						%Rec.		
Analyte	Result	Qua	lifier	Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Ammonia as N	1.1			1.00		2.07			mg/L			99	90 - 110		
Lab Sample ID: 280-15088 Matrix: Water	1-A-10 MSD	)							Clien	t Sa	mp	le ID: N	latrix Spil Prep Ty		
Analysis Batch: 544490															
	Sample	Sam	nple	Spike		MSD	MSI	כ					%Rec.		RPD
•	Sample		•				~	116.00	Unit		_	a / <b>-</b>	1 1	000	Limit
Analyte	Result		•	Added		Result	Qua	imer	Unit		D	%Rec	Limits	RPD	
	Result 1.1 kalinity		•	<b>Added</b> 1.00		Result 2.00	Qua		mg/L			93	90 - 110	3	10
Analyte Ammonia as N Iethod: SM 2320B - Al	Result 1.1 kalinity	Qua	lifier				Qua					93	90 - 110	3 ethod	10 Blank
Analyte Ammonia as N Aethod: SM 2320B - Al Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563	Result 1.1 kalinity 4563/33	Qua	MB		RI	2.00					Clie	93	90 - 110 ple ID: M Prep Ty	ethod pe: To	Blank tal/NA
Analyte Ammonia as N <b>/lethod: SM 2320B - Al</b> Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte	Result 1.1 kalinity 4563/33	Qua MB sult	lifier		<b>RL</b> 10	2.00		Unit		D	Clie	93	90 - 110 ple ID: M Prep Ty Analyz	ethod pe: To	Blank tal/NA Dil Fac
Analyte Ammonia as N Aethod: SM 2320B - Al Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity	Result 1.1 kalinity 4563/33	Qua	MB			2.00		Unit mg/L			Clie	93	90 - 110 ple ID: M Prep Ty	ethod pe: To	10 Blank tal/NA Dil Fac
Analyte Ammonia as N <b>/lethod: SM 2320B - Al</b> Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte	Result 1.1 kalinity 4563/33	Qua MB sult ND	MB		10	2.00		Unit			Clie	93	90 - 110 <b>Iple ID: M</b> <b>Prep Ty</b> - Analyz 07/27/21	3 ethod pe: To 21:20 21:20	10 Blank tal/NA Dil Fac 1
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity	Result 1.1 kalinity 4563/33 Re	Qua MB sult ND ND	MB		10 10	2.00		Unit mg/L mg/L		<u>D</u>	Clie Pi	ent Sam	90 - 110 Prep Ty Analyz 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 21:20	10 Blank tal/NA Dil Fac 1 1 1
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54	Result 1.1 kalinity 4563/33 Re	Qua MB sult ND ND	MB		10 10	2.00		Unit mg/L mg/L		<u>D</u>	Clie Pi	ent Sam	90 - 110 ple ID: M Prep Ty 07/27/21 07/27/21 07/27/21 ple ID: M	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod	Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water	Result 1.1 kalinity 4563/33 Re	Qua MB sult ND ND	MB		10 10	2.00		Unit mg/L mg/L		<u>D</u>	Clie Pi	ent Sam	90 - 110 Prep Ty Analyz 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod	Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54	Result 1.1 kalinity 4563/33 Re	Qua MB sult ND ND ND	MB		10 10	2.00		Unit mg/L mg/L		<u>D</u>	Clie Pi	ent Sam	90 - 110 ple ID: M Prep Ty 07/27/21 07/27/21 07/27/21 ple ID: M	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod	Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water	Result 1.1 kalinity 4563/33 Re 4563/6	Qua MB sult ND ND ND	MB Qualifier		10 10	2.00	MDL	Unit mg/L mg/L		<u>D</u>	Clie Pr Clie	ent Sam	90 - 110 ple ID: M Prep Ty 07/27/21 07/27/21 07/27/21 ple ID: M	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod pe: To	Dil Fac
Analyte Ammonia as N Attinue Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563	Result 1.1 kalinity 4563/33 Re 4563/6	Qua MB sult ND ND ND	MB Qualifier MB		10 10 10	2.00	MDL	Unit mg/L mg/L		<u>D</u>	Clie Pr Clie	ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To	10 Blank tal/NA Dil Fac 1 1 1 Blank tal/NA
Analyte Ammonia as N Attinue Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte	Result 1.1 kalinity 4563/33 Re 4563/6	Qua MB sult ND ND ND ND	MB Qualifier MB		10 10 10 <b>RL</b>	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u>	Clie Pr Clie	ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod pe: To	10 Blank tal/NA Dil Fac 1 Blank tal/NA Dil Fac
Analyte Ammonia as N Attinod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity	Result 1.1 kalinity 4563/33 Re 4563/6	Qua MB sult ND ND ND ND MB sult ND	MB Qualifier MB		10 10 10 <b>RL</b> 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u>	Clie Pr Clie	ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 ple ID: M Prep Ty - Analyz 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To red 17:51	Dil Fac
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity	Result 1.1 kalinity 4563/33 Re 4563/6 Re	Qua MB sult ND ND ND ND MB sult ND ND ND	MB Qualifier MB		10 10 10 <b>RL</b> 10 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u> 	Clie Pi Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod pe: To red 17:51 17:51 17:51	Dil Fac Blank tal/NA 1 1 1 Blank tal/NA Dil Fac
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Bicarbonate Alkalinity	Result 1.1 kalinity 4563/33 Re 4563/6 Re	Qua MB sult ND ND ND ND MB sult ND ND ND	MB Qualifier MB		10 10 10 <b>RL</b> 10 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u> 	Clie Pi Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To 21:51 17:51 17:51 17:51 ethod	Dil Fac Blank tal/NA Dil Fac 1 Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Analyte Ammonia as N Actional Stresson St	Result 1.1 kalinity 4563/33 Re 4563/6 Re	Qua MB sult ND ND ND ND MB sult ND ND ND	MB Qualifier MB		10 10 10 <b>RL</b> 10 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u> 	Clie Pi Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To 21:51 17:51 17:51 17:51 ethod	Dil Fac Blank tal/NA Dil Fac 1 Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Aethod: SM 2320B - All Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Bicarbonate Alkalinity Bicarbonate Alkalinity Bicarbonate Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Carbonate Alkalinity	Result 1.1 kalinity 4563/33 Re 4563/6 Re	Qua MB sult ND ND MB sult ND ND ND	MB Qualifier MB		10 10 10 <b>RL</b> 10 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u> 	Clie Pi Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To 21:51 17:51 17:51 17:51 ethod	Dil Fac Blank tal/NA Dil Fac 1 Blank tal/NA Dil Fac 1 1 Blank
Analyte Ammonia as N Analyte Ammonia as N Actional Stresson St	Result 1.1 kalinity 4563/33 Re 4563/6 Re 4563/60	Qua MB sult ND ND ND MB sult ND ND ND MB	MB Qualifier MB Qualifier		10 10 10 <b>RL</b> 10 10	2.00	MDL	Unit mg/L mg/L mg/L		<u>D</u> 	Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 ethod pe: To 21:51 17:51 17:51 17:51 17:51 17:51	Dil Fac 10 Dil Fac 1 1 1 Blank tal/NA Dil Fac 1 1 1 1 8 Blank tal/NA
Analyte Ammonia as N Atter Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563 Analyte Total Alkalinity Bicarbonate Alkalinity Carbonate Alkalinity Carbonate Alkalinity Lab Sample ID: MB 280-54 Matrix: Water Analysis Batch: 544563	Result 1.1 kalinity 4563/33 Re 4563/6 Re 4563/60	Qua MB sult ND ND ND MB sult ND ND ND MB	MB Qualifier MB Qualifier MB		10 10 10 10 10 10 10	2.00	MDL	Unit mg/L mg/L mg/L mg/L mg/L		D	Clie	93 ent Sam ent Sam	90 - 110 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 ple ID: M Prep Ty - Analyz 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21 07/27/21	3 ethod pe: To 21:20 21:20 21:20 21:20 ethod pe: To ethod pe: To ethod pe: To	tal/NA Dil Fac 1 1 1 Blank tal/NA Dil Fac 1 1 1 1 Blank

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# Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 280-5445	63/60							Cli	ent Sam	ple ID: Me	ethod	Blank
Matrix: Water										Prep Typ	oe: Tot	tal/NA
Analysis Batch: 544563												
Analyta		8 MB t Qualifier		RL	м	DL Unit	C		roparod	Analyz	ad	Dil Fac
Analyte Carbonate Alkalinity	ND			10 KL	IVI		L	· -	repared	_ Analyz		1
,												
Lab Sample ID: LCS 280-544 Matrix: Water	563/31						Clier	nt Sa	mple ID:	: Lab Con Prep Typ		
Analysis Batch: 544563			Spike		.cs	1.09				%Rec.		
Analyte			Added		-	Qualifier	Unit	D	%Rec	Limits		
Total Alkalinity		·	200		207		mg/L		104	89 - 109		
Lab Sample ID: LCS 280-544 Matrix: Water	563/4						Clier	nt Sa	mple ID:	: Lab Con Prep Typ		
Analysis Batch: 544563												
•			Spike		.CS		11	-	0/ <b>D</b>	%Rec.		
Analyte Total Alkalinity			Added 200		206	Qualifier	Unit mg/L	D	%Rec 103	Limits 89 - 109		
			200		200		mg/∟		103	09-109		
Lab Sample ID: LCS 280-544 Matrix: Water	563/58						Clier	nt Sa	mple ID:	: Lab Con Prep Typ		
Analysis Batch: 544563			Spike		.cs	LCS				%Rec.		
Analyte			Added		-	Qualifier	Unit	D	%Rec	Limits		
Total Alkalinity			200	:	208		mg/L		104	89 - 109		
Lab Sample ID: LCSD 280-54 Matrix: Water Analysis Batch: 544563	4563/32					C	lient Sa	mple	ID: Lab	Control S Prep Typ		
-			Spike	LC	SD	LCSD				%Rec.		RPD
Analyte			Added			Qualifier	Unit	D		Limits	RPD	Limit
Total Alkalinity			200	:	208		mg/L		104	89 - 109	0	10
Lab Sample ID: LCSD 280-54 Matrix: Water Analysis Batch: 544563	4563/5					C	lient Sa	mple	ID: Lab	Control S Prep Typ		
			Spike	LC	SD	LCSD				%Rec.		RPD
Analyte			Added			Qualifier	Unit	D		Limits	RPD	Limit
Total Alkalinity			200	:	207		mg/L		103	89 - 109	0	10
Lab Sample ID: LCSD 280-54 Matrix: Water	4563/59					C	lient Sa	mple	ID: Lab	Control S Prep Typ		
Analysis Batch: 544563			Spike		י חצי	LCSD				%Rec.		RPD
Analyte			Added			Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Total Alkalinity			200		209		mg/L		104	89 - 109	1	10
Lab Sample ID: 280-151093-2 Matrix: Water Analysis Batch: 544563	2 DU							C	lient Sar	nple ID: N Prep Typ		
,	Sample Sa	mple			DU	DU						RPD
Analyte	Result Qu	alifier		Res	sult (	Qualifier	Unit	D			RPD	Limit
Total Alkalinity	140				142	-						10

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#### Method: SM 2320B - Alkalinity (Continued) Lab Sample ID: 280-151111-A-12 DU **Client Sample ID: Duplicate** Matrix: Water **Prep Type: Total/NA** Analysis Batch: 544563 RPD Sample Sample DU DU **Result Qualifier** Result Qualifier RPD Limit Analyte Unit D Total Alkalinity 0.5 210 207 mg/L 10 Method: SM 5310B - Organic Carbon, Total (TOC) Lab Sample ID: MB 280-544413/13 **Client Sample ID: Method Blank** Matrix: Water Prep Type: Total/NA Analysis Batch: 544413 MB MB **Result Qualifier** RL MDL Unit Prepared Analyzed Dil Fac Analyte D 1.0 Total Organic Carbon - Average ND 07/26/21 16:27 mg/L 1 Lab Sample ID: LCS 280-544413/11 **Client Sample ID: Lab Control Sample** Matrix: Water Prep Type: Total/NA Analysis Batch: 544413 Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit D %Rec Total Organic Carbon - Average 25.0 23.8 mg/L 95 88 - 112 Lab Sample ID: LCSD 280-544413/12 **Client Sample ID: Lab Control Sample Dup Matrix: Water** Prep Type: Total/NA Analysis Batch: 544413 LCSD LCSD Spike %Rec. RPD Added Result Qualifier Analyte Unit D %Rec Limits RPD Limit Total Organic Carbon - Average 25.0 23.8 95 88 - 112 mg/L 0 15 Lab Sample ID: MB 280-544573/30 **Client Sample ID: Method Blank** Matrix: Water Prep Type: Total/NA Analysis Batch: 544573 MB MB Analyte **Result Qualifier** RL MDL Unit Analyzed Dil Fac D Prepared Total Organic Carbon - Average ND 1.0 mg/L 07/28/21 00:14 Lab Sample ID: LCS 280-544573/29 **Client Sample ID: Lab Control Sample** Matrix: Water Prep Type: Total/NA Analysis Batch: 544573 LCS LCS Spike %Rec. Added **Result Qualifier** Analyte Unit D %Rec Limits Total Organic Carbon - Average 25.0 24.1 96 88 - 112 mg/L Lab Sample ID: 280-151166-1 MS Client Sample ID: MW6-072121 Matrix: Water Prep Type: Total/NA Analysis Batch: 544573 Sample Sample Spike MS MS %Rec. Analvte **Result Qualifier** Added **Result Qualifier** Unit D %Rec Limits 2.0 25.0 Total Organic Carbon - Average 26.3 mg/L 97 88 - 112

QC Sample Results

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

Lab Sample ID: 280-151166-	1 MSD								С	lien	t Sar	nple ID: N	IW6-07	72121
Matrix: Water												Prep Typ	be: Tot	tal/NA
Analysis Batch: 544573														
	Sample	Sample	Spike		MSD	MSI	D					%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qua	alifier	Unit	D	%F	Rec	Limits	RPD	Limit
Total Organic Carbon - Average	2.0		25.0		26.2			mg/L			97	88 - 112	0	15
Lab Sample ID: MB 280-5448	367/35								Cli	ent	Sam	ple ID: Me	thod	Blank
Matrix: Water											-	Prep Typ		
Analysis Batch: 544867														
·····, ····		MB MB												
Analyte	Re	sult Qualifier		RL	1	MDL	Unit	[	D F	Prepa	ared	Analyz	ed	Dil Fac
Total Organic Carbon - Average		ND		1.0			mg/L			•		07/29/21 2		1
Lab Sample ID: MB 280-5448	867/4								CII	ont	Sam	ple ID: Me	athod	Rlank
Matrix: Water									01	ent	Jam	Prep Typ		
Analysis Batch: 544867												гіер іў	Je. 101	
Analysis Daten. 344007		МВ МВ												
Analyte	Re	sult Qualifier		RL		мрі	Unit	г	D F	Prepa	ared	Analyz	ed	Dil Fac
Total Organic Carbon - Average		ND quality		1.0			mg/L			1000		07/29/21		1
L oh Somelo ID: L CS 290 544	007/24							Cliev					tral Ca	mala
Lab Sample ID: LCS 280-544	007/34							Cilei	nt 5a	impi		: Lab Con		
Matrix: Water												Ргер Тур	be: 101	
Analysis Batch: 544867			Spike		1.00	LCS						%Rec.		
Analyta			Added					11		0/ 6				
Analyte Total Organic Carbon - Average			25.0		Result 24.5	Qua	liner	Unit mg/L	D	% <b>r</b>	Rec 98	Limits 88 - 112		
			25.0		24.5			iiig/L			30	00-112		
Lab Sample ID: 280-151093-	1 <b>MS</b>								С	lien	t Sar	nple ID: N	IW5-07	72121
Matrix: Water												Prep Typ	be: Tot	tal/NA
Analysis Batch: 544867														
-	Sample	Sample	Spike		MS	MS						%Rec.		
Analyte	Result	Qualifier	Added		Result	Qua	alifier	Unit	D	%F	Rec	Limits		
Total Organic Carbon - Average	1.1		25.0		25.9			mg/L			99	88 - 112		
Lab Sample ID: 280-151093-	1 MSD								С	lien	t Sar	nple ID: N	IW5-07	72121
Matrix: Water												Prep Typ		
Analysis Batch: 544867														
-	Sample	Sample	Spike		MSD	MSI	D					%Rec.		RPD
Analyte	Result	Qualifier	Added		Result	Qua	alifier	Unit	D	%F	Rec	Limits	RPD	Limit
Total Organic Carbon - Average	1.1		25.0		25.7			mg/L			98	88 - 112	0	15

# GC/MS VOA

#### Analysis Batch: 590818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-1	MW5-072121	Total/NA	Water	8260C SIM	
280-151093-2	MW7-072121	Total/NA	Water	8260C SIM	
280-151093-3	MW12I-072121	Total/NA	Water	8260C SIM	
280-151093-4	MW13D-072121	Total/NA	Water	8260C SIM	
280-151093-5	MW14-072121	Total/NA	Water	8260C SIM	
280-151093-6	SW1-072121	Total/NA	Water	8260C SIM	
280-151093-7	SW4-072121	Total/NA	Water	8260C SIM	
280-151093-8	SW7-072121	Total/NA	Water	8260C SIM	
280-151093-9	SW6-072121	Total/NA	Water	8260C SIM	
280-151093-11	MW20DD-072121	Total/NA	Water	8260C SIM	
280-151093-12	TB1	Total/NA	Water	8260C SIM	
MB 480-590818/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-590818/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-590818/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151166-1	MW6-072121	Total/NA	Water	8260C SIM	
MB 480-590980/9	Method Blank	Total/NA	Water	8260C SIM	
LCS 480-590980/6	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 480-590980/7	Lab Control Sample Dup	Total/NA	Water	8260C SIM	
480-187724-I-3 MS	Matrix Spike	Total/NA	Water	8260C SIM	
480-187724-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C SIM	
<u> </u>					

### **Metals**

### Prep Batch: 544189

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-151093-1	MW5-072121	Dissolved	Water	3005A	
280-151093-2	MW7-072121	Dissolved	Water	3005A	
280-151093-3	MW12I-072121	Dissolved	Water	3005A	
280-151093-4	MW13D-072121	Dissolved	Water	3005A	
280-151093-5	MW14-072121	Dissolved	Water	3005A	
280-151093-6	SW1-072121	Dissolved	Water	3005A	
280-151093-7	SW4-072121	Dissolved	Water	3005A	
280-151093-8	SW7-072121	Dissolved	Water	3005A	
280-151093-9	SW6-072121	Dissolved	Water	3005A	
280-151093-11	MW20DD-072121	Dissolved	Water	3005A	
MB 280-544189/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-544189/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-150781-B-6-B MS	Matrix Spike	Dissolved	Water	3005A	
280-150781-B-6-C MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

### Analysis Batch: 544402

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-151093-1	MW5-072121	Dissolved	Water	6020	544189
280-151093-3	MW12I-072121	Dissolved	Water	6020	544189
280-151093-5	MW14-072121	Dissolved	Water	6020	544189
280-151093-6	SW1-072121	Dissolved	Water	6020	544189
280-151093-7	SW4-072121	Dissolved	Water	6020	544189
280-151093-9	SW6-072121	Dissolved	Water	6020	544189

# Metals (Continued)

### Analysis Batch: 544402 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-11	MW20DD-072121	Dissolved	Water	6020	544189
MB 280-544189/1-A	Method Blank	Total Recoverable	Water	6020	544189
LCS 280-544189/2-A	Lab Control Sample	Total Recoverable	Water	6020	544189
280-150781-B-6-B MS	Matrix Spike	Dissolved	Water	6020	544189
280-150781-B-6-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020	544189
Analysis Batch: 5444	49				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-2	MW7-072121	Dissolved	Water	6020	544189
280-151093-4	MW13D-072121	Dissolved	Water	6020	544189
280-151093-8	SW7-072121	Dissolved	Water	6020	544189
Prep Batch: 544692					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151166-1	MW6-072121	Dissolved	Water	3005A	
MB 280-544692/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-544692/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-151166-1 MS	MW6-072121	Dissolved	Water	3005A	
280-151166-1 MSD	MW6-072121	Dissolved	Water	3005A	
Analysis Batch: 5449	55				
Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-151166-1	MW6-072121	Dissolved	Water	6020	544692
MB 280-544692/1-A	Method Blank	Total Recoverable	Water	6020	544692
LCS 280-544692/2-A	Lab Control Sample	Total Recoverable	Water	6020	544692
280-151166-1 MS	MW6-072121	Dissolved	Water	6020	544692
280-151166-1 MSD	MW6-072121	Dissolved	Water	6020	544692

## **General Chemistry**

#### Analysis Batch: 544216

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-151093-1	MW5-072121	Total/NA	Water	350.1	
280-151093-2	MW7-072121	Total/NA	Water	350.1	
280-151093-3	MW12I-072121	Total/NA	Water	350.1	
280-151093-5	MW14-072121	Total/NA	Water	350.1	
280-151093-6	SW1-072121	Total/NA	Water	350.1	
280-151093-7	SW4-072121	Total/NA	Water	350.1	
280-151093-8	SW7-072121	Total/NA	Water	350.1	
280-151093-11	MW20DD-072121	Total/NA	Water	350.1	
MB 280-544216/55	Method Blank	Total/NA	Water	350.1	
MB 280-544216/90	Method Blank	Total/NA	Water	350.1	
LCS 280-544216/53	Lab Control Sample	Total/NA	Water	350.1	
LCS 280-544216/88	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-544216/54	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 280-544216/89	Lab Control Sample Dup	Total/NA	Water	350.1	
280-151093-11 MS	MW20DD-072121	Total/NA	Water	350.1	
280-151093-11 MSD	MW20DD-072121	Total/NA	Water	350.1	

Job ID: 280-151093-1

# **General Chemistry**

### Analysis Batch: 544234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-4	MW13D-072121	Total/NA	Water	350.1	
280-151093-9	SW6-072121	Total/NA	Water	350.1	
MB 280-544234/20	Method Blank	Total/NA	Water	350.1	
LCS 280-544234/18	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-544234/19	Lab Control Sample Dup	Total/NA	Water	350.1	
280-151093-4 MS	MW13D-072121	Total/NA	Water	350.1	
280-151093-4 MSD	MW13D-072121	Total/NA	Water	350.1	
280-151093-9 MS	SW6-072121	Total/NA	Water	350.1	
280-151093-9 MSD	SW6-072121	Total/NA	Water	350.1	

# Analysis Batch: 544320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
280-151093-1	MW5-072121	Total/NA	Water	300.0		
280-151093-2	MW7-072121	Total/NA	Water	300.0		4
280-151093-3	MW12I-072121	Total/NA	Water	300.0		
280-151093-4	MW13D-072121	Total/NA	Water	300.0		
280-151093-5	MW14-072121	Total/NA	Water	300.0		
280-151093-6	SW1-072121	Total/NA	Water	300.0		
280-151093-7	SW4-072121	Total/NA	Water	300.0		
280-151093-8	SW7-072121	Total/NA	Water	300.0		
280-151093-9	SW6-072121	Total/NA	Water	300.0		
280-151093-11	MW20DD-072121	Total/NA	Water	300.0		
MB 280-544320/6	Method Blank	Total/NA	Water	300.0		
LCS 280-544320/4	Lab Control Sample	Total/NA	Water	300.0		
LCSD 280-544320/5	Lab Control Sample Dup	Total/NA	Water	300.0		
MRL 280-544320/3	Lab Control Sample	Total/NA	Water	300.0		
280-151093-2 MS	MW7-072121	Total/NA	Water	300.0		
280-151093-2 MSD	MW7-072121	Total/NA	Water	300.0		
280-151093-2 DU	MW7-072121	Total/NA	Water	300.0		

### Analysis Batch: 544413

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
280-151093-3	MW12I-072121	Total/NA	Water	SM 5310B	
280-151093-6	SW1-072121	Total/NA	Water	SM 5310B	
280-151093-7	SW4-072121	Total/NA	Water	SM 5310B	
280-151093-8	SW7-072121	Total/NA	Water	SM 5310B	
280-151093-9	SW6-072121	Total/NA	Water	SM 5310B	
MB 280-544413/13	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-544413/11	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 280-544413/12	Lab Control Sample Dup	Total/NA	Water	SM 5310B	

#### Analysis Batch: 544490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151166-1	MW6-072121	Total/NA	Water	350.1	
MB 280-544490/20	Method Blank	Total/NA	Water	350.1	
LCS 280-544490/18	Lab Control Sample	Total/NA	Water	350.1	
LCSD 280-544490/19	Lab Control Sample Dup	Total/NA	Water	350.1	
280-150881-A-10 MS	Matrix Spike	Total/NA	Water	350.1	
280-150881-A-10 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Job ID: 280-151093-1

# **General Chemistry**

### Analysis Batch: 544552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151166-1	MW6-072121	Total/NA	Water	300.0	
MB 280-544552/6	Method Blank	Total/NA	Water	300.0	
LCS 280-544552/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-544552/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-544552/3	Lab Control Sample	Total/NA	Water	300.0	
280-150655-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
280-150655-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-150655-A-1 DU	Duplicate	Total/NA	Water	300.0	

#### Analysis Batch: 544563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-1	MW5-072121	Total/NA	Water	SM 2320B	
280-151093-2	MW7-072121	Total/NA	Water	SM 2320B	
280-151093-3	MW12I-072121	Total/NA	Water	SM 2320B	
280-151093-4	MW13D-072121	Total/NA	Water	SM 2320B	
280-151093-5	MW14-072121	Total/NA	Water	SM 2320B	
280-151093-6	SW1-072121	Total/NA	Water	SM 2320B	
280-151093-7	SW4-072121	Total/NA	Water	SM 2320B	
280-151093-8	SW7-072121	Total/NA	Water	SM 2320B	
280-151093-9	SW6-072121	Total/NA	Water	SM 2320B	
280-151093-11	MW20DD-072121	Total/NA	Water	SM 2320B	
280-151166-1	MW6-072121	Total/NA	Water	SM 2320B	
MB 280-544563/33	Method Blank	Total/NA	Water	SM 2320B	
MB 280-544563/6	Method Blank	Total/NA	Water	SM 2320B	
MB 280-544563/60	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-544563/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-544563/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-544563/58	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-544563/32	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 280-544563/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 280-544563/59	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-151093-2 DU	MW7-072121	Total/NA	Water	SM 2320B	
280-151111-A-12 DU	Duplicate	Total/NA	Water	SM 2320B	

### Analysis Batch: 544573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151093-2	MW7-072121	Total/NA	Water	SM 5310B	
280-151093-4	MW13D-072121	Total/NA	Water	SM 5310B	
280-151093-5	MW14-072121	Total/NA	Water	SM 5310B	
280-151093-11	MW20DD-072121	Total/NA	Water	SM 5310B	
280-151166-1	MW6-072121	Total/NA	Water	SM 5310B	
MB 280-544573/30	Method Blank	Total/NA	Water	SM 5310B	
LCS 280-544573/29	Lab Control Sample	Total/NA	Water	SM 5310B	
280-151166-1 MS	MW6-072121	Total/NA	Water	SM 5310B	
280-151166-1 MSD	MW6-072121	Total/NA	Water	SM 5310B	

#### Analysis Batch: 544867

Lab Sample ID 280-151093-1	Client Sample ID MW5-072121	Prep Type Total/NA	Matrix Water	Method SM 5310B	Prep Batch
MB 280-544867/35	Method Blank	Total/NA	Water	SM 5310B	
MB 280-544867/4	Method Blank	Total/NA	Water	SM 5310B	

Client: Aspect Consulting Project/Site: Hansville Landfill Job ID: 280-151093-1

# **General Chemistry (Continued)**

## Analysis Batch: 544867 (Continued)

Lab Sample ID LCS 280-544867/34	Client Sample ID Lab Control Sample	Prep Type Total/NA	Matrix Water	Method SM 5310B	Prep Batch
280-151093-1 MS	MW5-072121	Total/NA	Water	SM 5310B	
280-151093-1 MSD	MW5-072121	Total/NA	Water	SM 5310B	

Initial

Amount

25 mL

50 mL

10 mL

10 mL

20 mL

Batch

Number

590818

544189

544402

544320

544216

544563

544867

Final

Amount

25 mL

50 mL

10 mL

10 mL

20 mL

Dil

1

1

1

1

1

1

Factor

Run

Prep Type

Total/NA

Dissolved

Dissolved

Total/NA

Total/NA

Total/NA

Total/NA

### Client Sample ID: MW5-072121 Date Collected: 07/21/21 10:00 Date Received: 07/23/21 09:20

Batch

Туре

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Batch

3005A

6020

300.0

350.1

SM 2320B

SM 5310B

Method

8260C SIM

Lab

TAL BUF

TAL DEN

TAL DEN

TAL DEN

TAL DEN

TAL DEN

TAL DEN

Matrix: Water

### Lab Sample ID: 280-151093-1 Matrix: Water

Analyst

WJD

Lab Sample ID: 280-151093-2

Prepared

or Analyzed

07/28/21 21:09

07/26/21 09:20 MAB

07/27/21 01:26 LMT

07/26/21 19:36 JMB

07/24/21 12:09 RKD

07/27/21 20:46 ECC 07/29/21 23:47 RAF

> 12 13

#### Client Sample ID: MW7-072121 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20

Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C SIM	Run	Dil Factor	Initial Amount 25 mL	Final Amount 25 mL	Batch Number 590818	Prepared or Analyzed 07/28/21 21:33	Analyst WJD	Lab TAL BUF
Dissolved Dissolved	Prep Analysis	3005A 6020		1	50 mL	50 mL	544189 544449	07/26/21 09:20 07/27/21 11:06	MAB LMT	TAL DEN TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 19:50	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544216	07/24/21 12:11	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 21:26	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544573	07/28/21 01:29	RAF	TAL DEN

#### Client Sample ID: MW12I-072121 Date Collected: 07/21/21 11:40 Date Received: 07/23/21 09:20

# Lab Sample ID: 280-151093-3

Lab Sample ID: 280-151093-4

Matrix: Water

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/28/21 21:57	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544402	07/27/21 01:33	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 21:14	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544216	07/24/21 12:13	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 21:55	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544413	07/26/21 18:25	RAF	TAL DEN

#### Client Sample ID: MW13D-072121 Date Collected: 07/21/21 12:55 Date Received: 07/23/21 09:20

Prep Type Total/NA	Batch Type Analysis	Batch Method 8260C SIM	Run	Dil Factor	Initial Amount 25 mL	Final Amount 25 mL	Batch Number 590818	Prepared or Analyzed 07/28/21 22:21	Analyst WJD	Lab TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544449	07/27/21 10:51	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 21:28	JMB	TAL DEN

## Client Sample ID: MW13D-072121 Date Collected: 07/21/21 12:55 Date Received: 07/23/21 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	350.1		1	10 mL	10 mL	544234	07/25/21 15:20	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 21:50	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544573	07/28/21 01:44	RAF	TAL DEN

### Client Sample ID: MW14-072121 Date Collected: 07/21/21 14:10 Date Received: 07/23/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/28/21 22:46	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544402	07/27/21 01:40	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 21:42	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544216	07/24/21 12:17	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 20:34	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544573	07/28/21 01:59	RAF	TAL DEN

#### Client Sample ID: SW1-072121 Date Collected: 07/21/21 11:20 Date Received: 07/23/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/28/21 23:10	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544402	07/27/21 01:44	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 21:56	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544216	07/24/21 12:25	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 20:40	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544413	07/26/21 19:09	RAF	TAL DEN

#### Client Sample ID: SW4-072121 Date Collected: 07/21/21 12:10 Date Received: 07/23/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/28/21 23:34	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544402	07/27/21 01:48	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 22:10	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544216	07/24/21 12:45	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 21:44	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544413	07/26/21 19:23	RAF	TAL DEN

### Eurofins TestAmerica, Denver

Job ID: 280-151093-1

Matrix: Water

Matrix: Water

Lab Sample ID: 280-151093-4

Lab Sample ID: 280-151093-5

# Lab Sample ID: 280-151093-6

Lab Sample ID: 280-151093-7

Matrix: Water

12

8/9/2021

Matrix: Water

Initial

Amount

25 mL

50 mL

10 mL

10 mL

20 mL

Dil

1

1

1

1

1

1

Factor

Run

Prep Type

Total/NA

Dissolved

Dissolved

Total/NA

Total/NA

Total/NA

Total/NA

### Client Sample ID: SW7-072121 Date Collected: 07/21/21 14:00 Date Received: 07/23/21 09:20

Batch

Type

Prep

Analysis

Analysis

Analysis

Analysis

Analysis

Analysis

Batch

3005A

6020

300.0

350.1

SM 2320B

SM 5310B

Method

8260C SIM

Lab

TAL BUF

TAL DEN

TAL DEN

TAL DEN

TAL DEN

TAL DEN

TAL DEN

Matrix: Water

Matrix: Water

Matrix: Water

### Lab Sample ID: 280-151093-8 Matrix: Water

Analyst

WJD

Prepared

or Analyzed

07/28/21 23:59

07/26/21 09:20 MAB

07/27/21 10:55 LMT

07/26/21 22:24 JMB

07/24/21 12:47 RKD

07/27/21 21:38 ECC

07/26/21 19:38 RAF

Lab Sample ID: 280-151093-9

Lab Sample ID: 280-151093-11

Lab Sample ID: 280-151093-12

Batch

Number

590818

544189

544449

544320

544216

544563

544413

Final

Amount

25 mL

50 mL

10 mL

10 mL

20 mL

12

## Client Sample ID: SW6-072121 Date Collected: 07/21/21 13:00

Date Received: 07/23/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/29/21 00:23	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544189	07/26/21 09:20	MAB	TAL DEN
Dissolved	Analysis	6020		1			544402	07/27/21 01:55	LMT	TAL DEN
Total/NA	Analysis	300.0		1	10 mL	10 mL	544320	07/26/21 22:38	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544234	07/25/21 14:34	RKD	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/27/21 20:23	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544413	07/26/21 20:22	RAF	TAL DEN

#### Client Sample ID: MW20DD-072121 Date Collected: 07/21/21 00:00 Date Received: 07/23/21 09:20

#### Batch Batch Dil Initial Final Batch Prepared Prep Type Туре Method Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Analysis 8260C SIM 25 mL 25 mL 590818 07/29/21 00:47 WJD TAL BUF 1 Dissolved Prep 3005A 50 mL 50 mL 544189 07/26/21 09:20 MAB TAL DEN Dissolved 6020 544402 07/27/21 01:59 LMT TAL DEN Analysis 1 Total/NA 300.0 10 mL 07/26/21 22:52 JMB Analysis 1 10 mL 544320 TAL DEN Total/NA 350.1 10 mL 10 mL 544216 07/24/21 13:35 RKD TAL DEN Analysis 1 Total/NA Analysis SM 2320B 544563 07/27/21 20:29 ECC TAL DEN 1 Total/NA Analysis SM 5310B 1 20 mL 20 mL 544573 07/28/21 02:13 RAF TAL DEN

### Client Sample ID: TB1 Date Collected: 07/21/21 08:10 Date Received: 07/23/21 09:20

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590818	07/29/21 01:11	WJD	TAL BUF

### Client Sample ID: MW6-072121 Date Collected: 07/21/21 16:05 Date Received: 07/26/21 09:10

### Lab Sample ID: 280-151166-1 Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C SIM		1	25 mL	25 mL	590980	07/29/21 21:17	WJD	TAL BUF
Dissolved	Prep	3005A			50 mL	50 mL	544692	07/29/21 16:30	LRD	TAL DEN
Dissolved	Analysis	6020		1			544955	07/30/21 18:33	LMT	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	544552	07/28/21 20:00	JMB	TAL DEN
Total/NA	Analysis	350.1		1	10 mL	10 mL	544490	07/27/21 12:51	JJM	TAL DEN
Total/NA	Analysis	SM 2320B		1			544563	07/28/21 01:21	ECC	TAL DEN
Total/NA	Analysis	SM 5310B		1	20 mL	20 mL	544573	07/28/21 00:45	RAF	TAL DEN

#### Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200 TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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



09 August 2021

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

RE: Hansville

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) 21G0262 Associated SDG ID(s) 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, Inc.

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Environment Testing TestAmerica

Ar	Eurofine TestAmerica Denver	(10262		C	Chain	of C	us	tody	y F	Rec	or	rd								🔅 eurofins	Environment Test TestAmerica
	Client Information	Sampler:	3/CE	R		PM: ra, Bets	sv A						C	arrier '	Frackin	g No(	s):			COC No: 280-23414-6845	1
	Client Contact: Meilani Lanier-Kamaha'o	Phone: (206)	413-5	408	E-M			rofiner	ot co	m										Page: 1 1	
	company.	(206)	11.2	100	Dei	13y.0ai		1011130	61.00		- 1									Job #: 11. 6	423
	Aspect Consulting, LLC Address:	Due Date Request	ted:				1			Ana	arys	SIS F	Requ	leste	a	Т	Т	Г		Preservation Cod	the second data and the second
	350 Madison Ave N City:	TAT Requested (d	lays):																and a second	A - HCL B - NaOH	M - Hexane N - None
	Bainbridge Island State, Zip:	-								and the second se	ARI									C - Zn Acetate D - Nitric Acid	O - AsNaO2 P - Na2O4S
	WA, 98110 Phone:	PO #:					-				direct sub to								A state	E - NaHSO4 F - MeOH G - Amchlor	Q - Na2SO3 R - Na2S2SO3 S - H2SO4
	Email:	Purchase Orde wo #:	r not require	d		or No)	uffalo				direct	O ARI	ARI							H - Ascorbic Acid	T - TSP Dodecahydrate U - Acetone
	m Kamahao Caspect consulting. c	Project #:skip sites/	events			Yes or	(TA B				ered)-	t sub t	ub to						lers	J - DI Water K - EDTA	V - MCAA W - ph 4-5
	Project Name: Hansville Landfill Site:	28006013 - 2Q		npling		ple (	loride				id filte	- direc	irect s						containe	L - EDA	Z - other (specify)
	Washington	550W#.				Sam	nyl Ch	s			ite (fie	- enice	IC) - d							Other:	
			Sample	Sample Type (C=comp,	Matrix (w=water, S=solid, 0=waste/oil,	Field Filtered Perform MS/N	8260C SIM - Vinyl Chloride (TA Buffalo)	Dissolved Metals	Ammonia/TOC	Alks/CI/SO4	Ortho-phosphate (field filtered)-	Dissolved Arsenice - direct sub to ARI	Nitrate/Nitrite (IC) - direct sub to						Total Number of		
P	Sample Identification	Sample Date	Time	The support of the second se	BT=Tissue, A=Air ation Code:			-		of the second second	SHADOW HIS	COOL 1	CONTRACTOR INCOME	STATE SEA	2042 15 200	See Secold	100000	N SUMBO	Tot	Special In	structions/Note:
Page	Mil-E-072121	7/21/21	1000	G	W	fY	A	DS	5	NN			V						Å		
39	MW-5-072121	11/21/21	100		, vv	┼┼	+		-	-/	$\frac{1}{1}$		<u>î</u>	-	-	+	-	-			
of 81	MW-7-072121 MW-12I-072121		0810			+	+		-	_	$\square$	+	++	+	-	+	+	$\vdash$		Diss As,NO3,NO2	2,o-phos subbed direct
-			1255			╈	-		+	_	+	+			-	+	-	-			ARI
	MW-13D-072121		and the second second			++	+	$\left  \right $	+		+	+		+		-		-			
	MW - 14 - 072121	<u>                                      </u>	1410			┼┼			+		+			-			-	-			
	SW-1-072121		1120			┼┼	-		-		+	+	$\vdash$		_	+	-	-			
	56-4-072121		1210			++			-	_		+			-	-	-	-			
	50-6-072121		1300	- -		++		$\square$	-		+		+	-		-	-	-	1		
	SW-7-072121	<u> </u>	1400			++			-	-	+			_	-	+	_	-	100		
	MW-6-072121	×	1605		J	++	-		-					_				-			
	MW-20DD-072121 Possible Hazard Identification			<u> </u>	×.	s	ample	Dispo	osal					sesse	d if s	amp	les a	re re	tain	ed longer than 1	month)
	Non-Hazard Flammable Skin Irritant Poi	son B 🛄 Unki	nown	Radiologic	al			Return	То С	lient			Dis	sposa	I By L	.ab	[			nive For	Months
	Deliverable Requested: I, II, III, IV, Other (specify)					S	pecial	Instruc	ction	s/QC	Rec	quire	nents	5:							
	Empty Kit Relinquished by:		Date:		-	Time	-							Me	thod of		wielytiele con-				
	Relinquished by: Allopa Bur	Date/Time: 7/22/21	12	18	Company	A	Rece	ived by:	m	n	-	/	-			Date	e/Time	22	12	1 1218	Company
œ	Relinquished by:	Date/Time!			Compan∛		1	eived by:	1	2	m	in	la l'	12	0	Date	e/Time:				Company
8/9/2021	Relinquished by:	Date/Time:			Company			eived by:				120	-1-			Date	e/Time:				Company
021	Custody Seals Intact: Custody Seal No.:				1		Coole	er Temp	eratu	re(s) °C	C and	Othe				24.2	1000	62	ADI	Sample EINIAT	09 Aug 2021 110
				1.1. COM-1		<u>ъ</u>	4	ι ω	5	2		2		age .	<u> </u>	04 Z.	0	-02 1	4KI		09 Aug 2021 110

8/9/2021



Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: Hansville	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	09-Aug-2021 11:01

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5-072121	21G0262-01	Water	21-Jul-2021 10:00	22-Jul-2021 12:18
MW-7-072121	21G0262-02	Water	21-Jul-2021 08:10	22-Jul-2021 12:18
MW-12I-072121	21G0262-03	Water	21-Jul-2021 11:40	22-Jul-2021 12:18
MW-13D-072121	21G0262-04	Water	21-Jul-2021 12:55	22-Jul-2021 12:18
MW-14-072121	21G0262-05	Water	21-Jul-2021 14:10	22-Jul-2021 12:18
SW-1-072121	21G0262-06	Water	21-Jul-2021 11:20	22-Jul-2021 12:18
SW-4-072121	21G0262-07	Water	21-Jul-2021 12:10	22-Jul-2021 12:18
SW-6-072121	21G0262-08	Water	21-Jul-2021 13:00	22-Jul-2021 12:18
SW-7-072121	21G0262-09	Water	21-Jul-2021 14:00	22-Jul-2021 12:18
MW-20DD-072121	21G0262-10	Water	21-Jul-2021 00:00	22-Jul-2021 12:18
MW-6-072121	21G0262-11	Water	21-Jul-2021 16:05	22-Jul-2021 12:18

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•	chain of custody document. This analytical report must be reproduced in its
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**Reported:** 09-Aug-2021 11:01

Arvada CO, 80002	Project Manager: Betsy Sara	
4955 Yarrow Street	Project Number: Hansville	
Eurofins - Test America - Denver	Project: Hansville	
	4955 Yarrow Street	4955 Yarrow Street Project Number: Hansville

Client: Eurofins - Test America - Denver Project: Hansville Work Order: 21G0262

#### Sample receipt

Samples as listed on the preceding page were received 22-Jul-2021 12:18 under ARI work order 21G0262. 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.

Sample specific QC was performed in association with sample 21G0262-01 in batch BJH0103. The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

#### Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times except sample 21G0262-10. The instrument stopped mid run on day two of hold time. The instrument was restarted and the sample was analyzed out of hold. This may also be due to no sample time provided so midnight is the assumed collection time.

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.

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

Analytical Resources, Incorporated Analytical Chemists and Consultants	Cooler Rec	eipt Fo	orm	
RI Client: Eurofing	Project Name: Hansville	Lauff.11		
OC No(s):	Delivered by: Fed-Ex UPS Couri	er Hand Delivered	d Other:	
ssigned ARI Job No: 21670262	Tracking No:	a second state		-
eliminary Examination Phase:			(	NÀ
Vere intact, properly signed and dated custody seals attached to t	the outside of the cooler?	YE	c /	NO)
Vere custody papers included with the cooler?		~		-
		CYE		NO
/ere custody papers properly filled out (ink, signed, etc.) emperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemi		YE	S	NO
ime 1218	33			
19				
cooler temperature is out of compliance fill out form 00070F		Temp Gun ID#:	<u>DOOG 23</u>	B
oler Accepted by:		1218		
	nd attach all shipping documents			
og-In Phase:				
Was a temperature blank included in the cooler?          What kind of packing material was used?       Bubble Wraterial was used?	ap Wet Ice Gel Packs Baggies Foam E	Block Paper Othe	YES	N
Was sufficient ice used (if appropriate)?		NA	YES	NC
How were bottles sealed in plastic bags?	••••••	Individually	Grouped	No
Did all bottles arrive in good condition (unbroken)?			VES	NC
Were all bottle labels complete and legible?			YES	NC
Did the number of containers listed on COC match with the numb			TEST	NO
Did all bottle labels and tags agree with custody papers?			YES	NC
Were all bottles used correct for the requested analyses?	•••••••		YES	NC
Do any of the analyses (bottles) require preservation? (attach pre	servation sheet, excluding VOCs)	NA	YES	NC
Were all VOC vials free of air bubbles?		NA	YES	NC
Was sufficient amount of sample sent in each bottle?	****		YES	NC
Date VOC Trip Blank was made at ARI		(NA)		
Were the sample(s) split (NA) YES Date/Time:	Equipment:		Split by:	
nples Logged by: <u>SC</u> Date: <u>7/22/</u>	71 Time: 1238 Lab	els checked by: _	SC	
** Notify Project Manager	of discrepancies or concerns **			
Sample ID on Bottle Sample ID on COC	Sample ID on Bottle	Sample	ID on COC	
	and a second			

0016F 01/17/2018

By:

Si

Cooler Receipt Form

Date: 7122121

Revision 014A



Analytical Resources, Incorporated Analytical Chemists and Consultants

# **Cooler Receipt Form**

ARI Client: Test Home	nca / Euro	fins	Pro	ject Name:	Hav	suille		
COC No(s):		NA	Del	vered by: Fed-Ex U	IPS Courie	r Hand Delivered	d Other:	
Assigned ARI Job No: 210	60262		Tra	cking No:		$\sim$		NA
Preliminary Examination Phase				5				
Were intact, properly signed an	d dated custody s	seals attached to	the outsid	le of the cooler?		YE	s (	NÖ
Were custody papers included v	with the cooler? .					YE	S	NO
Were custody papers properly f Temperature of Cooler(s) (°C) (	ar (* 1. an and an					Æ	Ś	NO
Time <u>145 8</u>				4.2			a	
If cooler temperature is out of co	ompliance fill out	form 00070F			1	emp Gun ID#:	000520	>(0
Cooler Accepted by:	Sc		Date:	7/22/21	Time:	1458		
				h all shipping docu				
Log-In Phase:								
Was a temperature blank inclu What kind of packing materi					E Foom Pl	ook Dopor Otho	YES	NO
Was sufficient ice used (if app			the second se			NA	YES)	NO
How were bottles sealed in pla					•	Individually	Grouped	0
Did all bottles arrive in good co	0.772					mannadany	(YES)	NO
Were all bottle labels complete							YES	NO
Did the number of containers I	20						YES	NO
Did all bottle labels and tags a							YES	NO
Were all bottles used correct f							YES	NO
Do any of the analyses (bottle	s) require preserv	vation? (attach p	reservatior	n sheet, excluding V	′OCs)	NA	YES	NO
Were all VOC vials free of air I	bubbles?				24	NA	YES	NO
Was sufficient amount of sample	ple sent in each b	ottle?					(YES)	NO
Date VOC Trip Blank was mad	de at ARI					(NA)	$\sim$	
Were the sample(s) split by ARI?	NA YES	Date/Time:		Equipment:			Split by:	
Samples Logged by: 🕉	<u> </u>	Date: 7/22	121	Time: 1533	Labe	ls checked by: _	SC	

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
dditional Notes, Discrepancie		on work order	21610262 that
			na se a sera larra larra a da se en anciente en
had been missi	~g.		

Cooler Receipt Form

Analytical Resources, Incorporated



Printed: 7/22/2021 3:34:36PM

H.

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# WORK ORDER 21G0262

Client: Test Americ	a - Denver	Project Manager: Shelly Fishel	
Project: Hansville		Project Number: 28006013	
Troject. Hansvine	<b>n</b>		
C ( ' ID		n Confirmation	
Container ID	Container Type	рН	
21G0262-01 A	Miscellaneous container, 1:1 HN03 (FF)	12	RSS (P)
21G0262-01 B	Miscellaneous Container		
21G0262-01 C	Miscellaneous Container		
21G0262-02 A	Miscellaneous container, 1:1 HN03 (FF)	22	P
21G0262-02 B	Miscellaneous Container		
21G0262-02 C	Miscellaneous Container		
21G0262-03 A	Miscellaneous container, 1:1 HN03 (FF)	22	P
21G0262-03 B	Miscellaneous Container		
21G0262-03 C	Miscellaneous Container		
21G0262-04 A	Miscellaneous container, 1:1 HN03 (FF)	<2	P
21G0262-04 B	Miscellaneous Container		1
21G0262-04 C	Miscellaneous Container		
21G0262-05 A	Miscellaneous container, 1:1 HN03 (FF)	22	P
21G0262-05 B	Miscellaneous Container		
21G0262-05 C	Miscellaneous Container		
21G0262-06 A	Miscellaneous container, 1:1 HN03 (FF)	62	P
21G0262-06 B	Miscellaneous Container		
21G0262-06 C	Miscellaneous Container		
21G0262-07 A	Miscellaneous container, 1:1 HN03 (FF)	22	P
21G0262-07 B	Miscellaneous Container		
21G0262-07 C	Miscellaneous Container		
21G0262-08 A	Miscellaneous container, 1:1 HN03 (FF)	22	P
21G0262-08 B	Miscellaneous Container		
21G0262-08 C	Miscellaneous Container		
21G0262-09 A	Miscellaneous container, 1:1 HN03 (FF)	L2	ρ
21G0262-09 B	Miscellaneous Container		
21G0262-09 C	Miscellaneous Container		
21G0262-10 A	Miscellaneous container, 1:1 HN03 (FF)	62	P
21G0262-10 B	Miscellaneous Container		
21G0262-10 C	Miscellaneous Container		
21G0262-11 A	Miscellaneous container, 1:1 HN03 (FF)	< ر	P
21G0262-11 B	Miscellaneous Container		
21G0262-11 C	Miscellaneous Container		



WORK ORDER 21G0262

Client: Test America - Denver	Project Manager: Shelly Fishel
Project: Hansville	Project Number: 28006013
-1	

SC

Preservation Confirmed By

7/22/21 Date 

Eurofins - Test Americ	a - Denver	Project: Hansville	e						
4955 Yarrow Street		Project Number: Hansville	e				Repo	rted:	
Arvada CO, 80002		Project Manager: Betsy Sara				09-Aug-2021 11:01			
		MW-5-072121							
		21G0262-01 (Wate	er)						
Motals and Motallic	Compounds (dissolved)								
	Compounds (dissolved) Г-KED					Si	ampled: 07/	/21/2021 10:00	
Metals and Metallic ( Method: EPA 200.8 UCT Instrument: ICPMS1 A	ſ-KED								
Method: EPA 200.8 UCT	ſ-KED	-79-020 4.1.4 HNO3 matrix	<u> </u>			Ar	nalyzed: 08/	/21/2021 10:00 /04/2021 19:00 G0262-01 A 01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB	-79-020 4.1.4 HNO3 matrix Sample Size: 25				Ar	nalyzed: 08/	/04/2021 19:00	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/4		5 mL			Ar	nalyzed: 08/	/04/2021 19:00	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/4 Preparation Batch: BJH0103	Sample Size: 25	5 mL	Detection	Reporting	Ar	nalyzed: 08/	/04/2021 19:00	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/4 Preparation Batch: BJH0103	Sample Size: 25	5 mL	Detection Limit	Reporting Limit	Ar	nalyzed: 08/	/04/2021 19:00	

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Analyte

Orthophosphorus

Eurofins - Test America	- Denver	Project: Hansvill	e					
4955 Yarrow Street	Proj	ject Number: Hansvill	e				Repor	rted:
Arvada CO, 80002	Proje	Project Manager: Betsy Sara					09-Aug-20	021 11:01
		MW-5-072121						
		21G0262-01 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/2	21/2021 10:00
Instrument: IC930 Analy	vst: BF					Ar	nalyzed: 07/2	22/2021 16:37
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 10 Final Volume: 1				I	Extract ID: 2	21G0262-01 C
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	2.11	mg/L	
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0		0.100	0.100	ND	mg/L	U

CAS Number

1426-54-42

Detection

Limit

0.10

Dilution

1

Reporting

Limit

0.10

Result

0.13

Units

mg-P/L

Notes

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	chain of custody document. This analytical report must be reproduced in its
	entirety.



Eurofins - Test Americ	a - Denver	Project: Hansville							
4955 Yarrow Street		Project Number: Hansville					Repo	rted:	
Arvada CO, 80002		Project Manager: Betsy Sara				09-Aug-2021 11:01			
		MW-7-072121							
		21G0262-02 (Water)							
Metals and Metallic	Compounds (dissolved)								
Metals and Metallic Method: EPA 200.8 UCT	I ()					S	ampled: 07/	/21/2021 08:10	
Method: EPA 200.8 UCT	ſ-KED								
	ſ-KED	0/4-79-020 4.1.4 HNO3 matrix				Ar	nalyzed: 08/	/05/2021 03:01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB	0/4-79-020 4.1.4 HNO3 matrix Sample Size: 25 ml	L			Ar	nalyzed: 08/	/21/2021 08:10 /05/2021 03:01 G0262-02 A 01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 60					Ar	nalyzed: 08/	/05/2021 03:01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 60 Preparation Batch: BJH0103	Sample Size: 25 ml		Detection	Reporting	Ar	nalyzed: 08/	/05/2021 03:01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 60 Preparation Batch: BJH0103	Sample Size: 25 ml Final Volume: 25 m		Detection Limit	Reporting Limit	Ar	nalyzed: 08/	/05/2021 03:01	

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Orthophosphorus

Eurofins - Test America	a - Denver	Project: Hansvill	e					
4955 Yarrow Street	Pro	ject Number: Hansvill	e				Repor	ted:
Arvada CO, 80002	Proj	ect Manager: Betsy Sa	ra				09-Aug-20	21 11:01
		MW-7-072121						
		21G0262-02 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/	21/2021 08:10
Instrument: IC930 Anal	yst: BF					Aı	nalyzed: 07/	22/2021 16:57
Sample Preparation:	Preparation Method: No Prep Wet Chem					]	Extract ID: 2	21G0262-02 G
	Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 10 Final Volume: 1						
	Fiepared. 07/22/2021	Final volume.	0 IIIL	Detection	D			
Analyte		CAS Number	Dilution	Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	0.194	mg/L	
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes

1426-54-42

1

0.10

0.10

mg-P/L

ND

U

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•	chain of custody document. This analytical report must be reproduced in its
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Eurofins - Test Americ	a - Denver	Project: Hansville					
4955 Yarrow Street		Project Number: Hansville				Repo	rted:
Arvada CO, 80002		Project Manager: Betsy Sara		09-Aug-2021 1			
		MW-12I-072121					
		21G0262-03 (Water)					
Metals and Metallic	Compounds (dissolved)						
	I ()				S	ampled: 07	/21/2021 11:4
Metals and Metallic Method: EPA 200.8 UCT Instrument: ICPMS1 A	Г-KED						
Method: EPA 200.8 UCT	Г-KED	0/4-79-020 4.1.4 HNO3 matrix			Aı	nalyzed: 08/	/21/2021 11:40 /05/2021 03:04 G0262-03 A 01
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB	0/4-79-020 4.1.4 HNO3 matrix Sample Size: 25 mL			Aı	nalyzed: 08/	/05/2021 03:04
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600				Aı	nalyzed: 08/	/05/2021 03:04
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600 Preparation Batch: BJH0103	Sample Size: 25 mL	Detection	Reporting	Aı	nalyzed: 08/	/05/2021 03:04
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600 Preparation Batch: BJH0103	Sample Size: 25 mL	Detection Limit	Reporting Limit	Aı	nalyzed: 08/	/05/2021 03:04

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Eurofins - Test America	- Denver	Project: Hansville	
4955 Yarrow Street		Project Number: Hansville	Reported:
Arvada CO, 80002		Project Manager: Betsy Sara	09-Aug-2021 11:01
		MW-12I-072121	
		21G0262-03 (Water)	
		<b>``</b> ,	
Wet Chemistry			
Method: EPA 300.0			Sampled: 07/21/2021 11:40
Instrument: IC930 Analy	st: BF		Analyzed: 07/22/2021 17:17
Sample Preparation:	Preparation Method: No Prep Wet C	hem	Extract ID: 21G0262-03 C
	Preparation Batch: BJG0540	Sample Size: 10 mL	
	Prepared: 07/22/2021	Final Volume: 10 mL	

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
			Detection	Reporting			
Analyte	CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U
			Detection	Reporting			
Analyte	CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Orthophosphorus	1426-54-42	1	0.10	0.10	ND	mg-P/L	U

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	chain of custody document. This analytical report must be reproduced in its
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Eurofins - Test America	- Denver	Project: Hansvill	e					
4955 Yarrow Street		Project Number: Hansvill	e				Repo	rted:
Arvada CO, 80002		Project Manager: Betsy Sa	ira				09-Aug-20	021 11:01
		MW-13D-07212	1					
		21G0262-04 (Wate	er)					
Metals and Metallic C	Compounds (dissolved)							
Method: EPA 200.8 UCT	-KED					Sa	ampled: 07/	21/2021 12:55
Instrument: ICPMS1 An	alyst: MCB					Ar	alyzed: 08/	05/2021 03:07
Sample Preparation:	Preparation Method: REN EPA 600	/4-79-020 4.1.4 HNO3 matrix	κ.			Ext	ract ID: 210	G0262-04 A 01
	Preparation Batch: BJH0103	Sample Size: 2	5 mL					
	Prepared: 08/04/2021	Final Volume: 2	25 mL					
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	5.62	ug/L	

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Eurofins - Test America	a - Denver	Project: Hansvill	e					
4955 Yarrow Street	Proj	ject Number: Hansvill	e				Repor	rted:
Arvada CO, 80002	Proje	ect Manager: Betsy Sa	ira				09-Aug-20	021 11:01
		MW-13D-07212	1					
		21G0262-04 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/	21/2021 12:55
Instrument: IC930 Anal	yst: BF					Aı	nalyzed: 07/	22/2021 17:37
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 10 Final Volume: 1				]	Extract ID: 2	21G0262-04 C
	1			Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U

Analytical Resources, Inc.	The results in this report apply to the samples analyzed in accordance with the
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	Prepared: 07/22/2021	Final Volume: 1						
				Detection	1 0			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	0.10	ND	mg-P/L	U



Eurofins - Test Americ	a - Denver	Project: Hansville	e						
4955 Yarrow Street		Project Number: Hansville	e				Repo	rted:	
Arvada CO, 80002		Project Manager: Betsy Sa	ira	09-Au <sub>ξ</sub>			09-Aug-20	g-2021 11:01	
		MW-14-072121	l						
		21G0262-05 (Wate	er)						
	~								
	Compounds (dissolved)						1 1 07	21/2021 14 14	
Method: EPA 200.8 UCT	ſ-KED								
Method: EPA 200.8 UCT	ſ-KED								
Metals and Metallic ( Method: EPA 200.8 UCT Instrument: ICPMS1 A: Sample Preparation:	ſ-KED	4-79-020 4.1.4 HNO3 matrix	ζ.			Ar	nalyzed: 08/	21/2021 14:10 05/2021 03:10 G0262-05 A 01	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	Г-КЕD nalyst: MCB	4-79-020 4.1.4 HNO3 matrix Sample Size: 25				Ar	nalyzed: 08/	05/2021 03:10	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/-		5 mL			Ar	nalyzed: 08/	05/2021 03:10	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/- Preparation Batch: BJH0103	Sample Size: 25	5 mL	Detection	Reporting	Ar	nalyzed: 08/	05/2021 03:10	
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/- Preparation Batch: BJH0103	Sample Size: 25	5 mL	Detection Limit	Reporting Limit	Ar	nalyzed: 08/	05/2021 03:10	

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	chain of custody document. This analytical report must be reproduced in its
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Orthophosphorus

Eurofins - Test America	a - Denver	Project: Hansvill	e					
4955 Yarrow Street	Р	roject Number: Hansvill	e				Repo	rted:
Arvada CO, 80002	Pr	oject Manager: Betsy Sa	ira				09-Aug-20	021 11:01
		MW-14-07212	[					
		21G0262-05 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/	21/2021 14:10
Instrument: IC930 Anal	yst: BF					Aı	nalyzed: 07/	22/2021 17:57
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 10 Final Volume: 1				]	Extract ID: 2	21G0262-05 C
	1.			Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes

1426-54-42

1

0.10

0.10

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mg-P/L

0.10



Analyte

Arsenic, Dissolved

Eurofins - Test Americ	a - Denver	Project: Hansville		
4955 Yarrow Street		Project Number: Hansville		Reported:
Arvada CO, 80002		Project Manager: Betsy Sara		09-Aug-2021 11:01
		SW-1-072121		
		21G0262-06 (Water)		
Metals and Metallic	Compounds (dissolved)			
Method: EPA 200.8 UCT	ſ-KED			Sampled: 07/21/2021 11:20
Instrument: ICPMS1 A	nalyst: MCB			Analyzed: 08/05/2021 03:15
Sample Preparation:	Preparation Method: REN EPA 60	0/4-79-020 4.1.4 HNO3 matrix		Extract ID: 21G0262-06 A 01
	Preparation Batch: BJH0103	Sample Size: 25 mL		
	Prepared: 08/04/2021	Final Volume: 25 mL		
			Detection Reporting	

CAS Number

7440-38-2

Dilution

1

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Limit

0.200

Result

1.72

Units

ug/L

Notes

Limit

0.0373



Orthophosphorus

Eurofins - Test America	a - Denver	Project: Hansvill	e						
4955 Yarrow Street		Project Number: Hansville					Reported:		
Arvada CO, 80002		Project Manager: Betsy Sa	ira				09-Aug-2	021 11:01	
		SW-1-072121							
		21G0262-06 (Wate	er)						
Wet Chemistry									
Method: EPA 300.0						S	ampled: 07	/21/2021 11:20	
Instrument: IC930 Analyst: BF						Ar	nalyzed: 07/	22/2021 18:17	
Sample Preparation:	Preparation Method: No Prep Wet Che Preparation Batch: BJG0540	em Sample Size: 10	) mI			I	Extract ID:	21G0262-06 C	
	Prepared: 07/22/2021	Final Volume: 1							
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes	
Nitrate-N		14797-55-8	1	0.100	0.100	1.65	mg/L		
				Detection	Reporting				
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes	
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U	
				Detection	Reporting				
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes	

1426-54-42

1

0.10

0.10

mg-P/L

ND

U

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Eurofins - Test America - Denver Project: Hansville										
4955 Yarrow Street		Project Number: Hansville	ct Number: Hansville					Reported:		
Arvada CO, 80002	02 Project Manager: Betsy Sara					09-Aug-2021 11:01				
		SW-4-072121								
		21G0262-07 (Water)								
	Compounds (dissolved)									
Metals and Metallic Method: EPA 200.8 UCT	1 ( )					S	ampled: 07/	/21/2021 12:10		
	T-KED									
Method: EPA 200.8 UCT	T-KED	I-79-020 4.1.4 HNO3 matrix				Ar	nalyzed: 08/			
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB	I-79-020 4.1.4 HNO3 matrix Sample Size: 25 mL				Ar	nalyzed: 08/	/05/2021 03:34		
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN EPA 600/4					Ar	nalyzed: 08/	/05/2021 03:34		
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN_EPA 600/4 Preparation Batch: BJH0103	Sample Size: 25 mL		Detection	Reporting	Ar	nalyzed: 08/	/05/2021 03:34		
Method: EPA 200.8 UCT Instrument: ICPMS1 A	F-KED nalyst: MCB Preparation Method: REN_EPA 600/4 Preparation Batch: BJH0103	Sample Size: 25 mI Final Volume: 25 m		Detection Limit	Reporting Limit	Ar	nalyzed: 08/	/21/2021 12:10 /05/2021 03:34 G0262-07 A 01 Notes		

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Anal	lytical	Report
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Eurofins - Test America -	Denver	Project: Hansvill	e					
4955 Yarrow Street	Proje	ect Number: Hansvill	e				Repor	ted:
Arvada CO, 80002	Proje	ct Manager: Betsy Sa	ira				09-Aug-20	21 11:01
		SW-4-072121						
		21G0262-07 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/2	21/2021 12:10
Instrument: IC930 Analyst	: BF					A	nalyzed: 07/2	22/2021 18:37
Sample Preparation:	Preparation Method: No Prep Wet Chem						Extract ID: 2	1G0262-07 C
	Preparation Batch: BJG0540	Sample Size: 10						
<b>F</b>	Prepared: 07/22/2021	Final Volume: 1	0 mL					
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	1.44	mg/L	
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Orthophosphorus		1426-54-42	1	0.10	0.10	ND	mg-P/L	U



Errefine Test America	Damara	During to House 1	1.							
Eurofins - Test America	- Denver	Project: Hansvil								
4955 Yarrow Street	Project Number: Hansvil	le				Repo	rted:			
Arvada CO, 80002	Arvada CO, 80002 Project Manager: Betsy Sara					09-Aug-2021 11:01				
		SW-6-072121								
		21G0262-08 (Wat	er)							
Metals and Metallic C	Compounds (dissolved)									
Method: EPA 200.8 UCT	-KED					Sa	ampled: 07/	21/2021 13:00		
Instrument: ICPMS1 Ar	alyst: MCB					Ar	alyzed: 08/	05/2021 03:37		
Sample Preparation:	Preparation Method: REN EPA 600/	4-79-020 4.1.4 HNO3 matri	X			Ext	ract ID: 210	G0262-08 A 01		
	Preparation Batch: BJH0103	Sample Size: 2	5 mL							
	Prepared: 08/04/2021	Final Volume:	25 mL							
				Detection	Reporting					
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes		
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	4.74	ug/L			

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Eurofins - Test America	Project: Hansvil	le						
4955 Yarrow Street	Р	roject Number: Hansvil	le				Repor	rted:
Arvada CO, 80002	Pr	oject Manager: Betsy Sa	ara				09-Aug-20	021 11:01
		SW-6-072121						
		21G0262-08 (Wat	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/	21/2021 13:0
Instrument: IC930 Analy	st: BF					Ar	nalyzed: 07/	23/2021 10:5
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 1 Final Volume:				I	Extract ID: 2	21G0262-08
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyzta		CAS Number	Dilution	Limit	Limit	Popult	Unite	Notor

Analyte	CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U
			Detection	Reporting			
Analyte	CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Orthophosphorus	1426-54-42	1	0.10	0.10	ND	mg-P/L	U

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



Eurofins - Test America - Denver Project: Hansville							
4955 Yarrow Street Project Number: Hansville						Repo	rted:
Arvada CO, 80002 Project Manager: Betsy Sara						09-Aug-20	021 11:01
		SW-7-072121					
		21G0262-09 (Water)					
Metals and Metallic	Compounds (dissolved)						
Method: EPA 200.8 UCT	-KED				S	ampled: 07/	21/2021 14:00
Instrument: ICPMS1 A	nalyst: MCB				Ar	halyzed: 08/	05/2021 03:40
Sample Preparation:	Preparation Method: REN EPA 60	0/4-79-020 4.1.4 HNO3 matrix			Ext	ract ID: 210	60262-09 A 01
	Preparation Batch: BJH0103	Sample Size: 25 mL					
		Final Volume: 25 mL					
	Prepared: 08/04/2021	r mai volume: 25 mL					
	Prepared: 08/04/2021	rmai volume: 23 mL	Detection	Reporting			
Analyte	Prepared: 08/04/2021	CAS Number Dilution		Reporting Limit	Result	Units	Notes

Analytical Resources, Inc.	The results in this report apply to the samples analyzed in accordance with the
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Eurofins - Test America	a - Denver	Project: Hansvill	e					
4955 Yarrow Street		Project Number: Hansvill	e				Repor	rted:
Arvada CO, 80002	F	Project Manager: Betsy Sa	ara				09-Aug-20	021 11:01
		SW-7-072121						
		21G0262-09 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/2	21/2021 14:0
Instrument: IC930 Anal	yst: BF					Ar	nalyzed: 07/	23/2021 11:2
Sample Preparation:	Preparation Method: No Prep Wet Cher	n				I	Extract ID: 2	21G0262-09
	Preparation Batch: BJG0540	Sample Size: 10	0 mL					
	Prepared: 07/22/2021	Final Volume: 1	l0 mL					
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	U
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes

Nitrite-N	14797-65-0	1	0.100	0.100	ND	mg/L	U
			Detection	Reporting			
Analyte	CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Orthophosphorus	1426-54-42	1	0.10	0.10	ND	mg-P/L	U



Eurofins - Test America - Denver Project: Hansville									
4955 Yarrow Street		Project Number: Hansvil	le			Reported:			
Arvada CO, 80002		Project Manager: Betsy Sara 09-Aug-2021 11:01					21 11:01		
		MW-20DD-0721	21						
		21G0262-10 (Wat	er)						
Metals and Metallic (	compounds (dissolved)								
Method: EPA 200.8 UCT	-KED					S	ampled: 07/	21/2021 00:00	
Instrument: ICPMS1 Ar	alyst: MCB					Aı	alyzed: 08/	05/2021 03:44	
Sample Preparation:	Preparation Method: REN EPA 600	)/4-79-020 4.1.4 HNO3 matri	х			Ext	ract ID: 210	0262-10 A 01	
* *	Preparation Batch: BJH0103	Sample Size: 2	5 mL						
	Prepared: 08/04/2021	Final Volume:	25 mL						
				Detection	Reporting				
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes	
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	13.7	ug/L		

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



Eurofins - Test America	- Denver	Project: Hansvill	e					
4955 Yarrow Street	Proje	ect Number: Hansvill	e				Report	ed:
Arvada CO, 80002	Projec	ct Manager: Betsy Sa	ra				09-Aug-202	21 11:01
		MW-20DD-0721	21					
		21G0262-10 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/2	1/2021 00:00
Instrument: IC930 Analy	st: BF					А	nalyzed: 07/2	3/2021 11:39
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJG0540 Prepared: 07/22/2021	Sample Size: 10 Final Volume: 1				Extract ID: 2	1G0262-10 C	
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	ND	mg/L	H, 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	H, U
Analyte		CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
		1426-54-42	1	0.10	0.10	ND	mg-P/L	H, U

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



Eurofins - Test America	- Denver	Project: Hansvil	le					
4955 Yarrow Street		Project Number: Hansvil	le				Repo	rted:
Arvada CO, 80002		Project Manager: Betsy S	ara				09-Aug-20	021 11:01
		21G0262-11 (Wat	er)					
Metals and Metallic C	Compounds (dissolved)							
Method: EPA 200.8 UCT	-KED					Sa	ampled: 07/	21/2021 16:05
Instrument: ICPMS1 Ar	alyst: MCB					Ar	alyzed: 08/	05/2021 03:48
Sample Preparation:	Preparation Method: REN EPA 600	/4-79-020 4.1.4 HNO3 matri	x			Ext	act ID: 210	G0262-11 A 01
	Preparation Batch: BJH0103	Sample Size: 2	5 mL					
	Prepared: 08/04/2021	Final Volume:	25 mL					
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Arsenic, Dissolved		7440-38-2	1	0.0373	0.200	1.59	ug/L	

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



Anal	lytical	Report
	Jucui	report

Eurofins - Test America	Denver	Project: Hansvill	2					
4955 Yarrow Street		oject Number: Hansvill					Repor	tode
Arvada CO, 80002		ject Manager: Betsy Sa					09-Aug-20	
Al vada CO, 80002	110	Jeet Manager. Detsy 52					07-Aug-20	21 11.01
		MW-6-072121						
		21G0262-11 (Wate	er)					
Wet Chemistry								
Method: EPA 300.0						S	ampled: 07/2	21/2021 16:05
Instrument: IC930 Analy	yst: BF					А	nalyzed: 07/2	23/2021 11:59
Sample Preparation:	Preparation Method: No Prep Wet Chem						Extract ID: 2	21G0262-11 C
	Preparation Batch: BJG0540	Sample Size: 10						
	Prepared: 07/22/2021	Final Volume: 1	0 mL					
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrate-N		14797-55-8	1	0.100	0.100	0.928	mg/L	
				Detection	Reporting			
Analyte		CAS Number	Dilution	Limit	Limit	Result	Units	Notes
Nitrite-N		14797-65-0	1	0.100	0.100	ND	mg/L	U
A			Dilatia	Detection Limit	Reporting Limit	Densk	Units	Neter
Analyte		CAS Number	Dilution			Result		Notes
Orthophosphorus		1426-54-42	1	0.10	0.10	ND	mg-P/L	U

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

Page 67 of 81 Page 30 of 34 21G0262 ARISample FINAL 09 Aug 208/9/2021



# **Analytical Report**

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: Hansville	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	09-Aug-2021 11:01

## Metals and Metallic Compounds (dissolved) - Quality Control

### Batch BJH0103 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0103-BLK1)					Prepa	ared: 04-Aug	g-2021 An	alyzed: 04-	-Aug-2021	18:26		
Arsenic, Dissolved	75a	ND	0.0373	0.200	ug/L							U
LCS (BJH0103-BS1)					Prepa	ared: 04-Aug	g-2021 An	alyzed: 04-	-Aug-2021	18:30		
Arsenic, Dissolved	75a	24.2	0.0373	0.200	ug/L	25.0		96.7	80-120			
Duplicate (BJH0103-DUP1)		Se	ource: 21G	0262-01	Prepa	ared: 04-Aug	g-2021 An	alyzed: 04-	-Aug-2021	19:07		
Arsenic, Dissolved	75a	1.80	0.0373	0.200	ug/L		1.77			1.74	20	
Matrix Spike (BJH0103-MS1)		Se	ource: 21G	0262-01	Prepa	ared: 04-Aug	g-2021 An	alyzed: 04-	-Aug-2021	19:12		
Arsenic, Dissolved	75a	25.5	0.0373	0.200	ug/L	25.0	1.77	94.9	75-125			

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

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



# **Analytical Report**

Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: Hansville	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	09-Aug-2021 11:01

## Wet Chemistry - Quality Control

## Batch BJG0540 - 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 (BJG0540-BLK1)				Prepa	ared: 22-Jul-2	2021 Ana	lyzed: 22-Ju	ul-2021 15:5	7		
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 (BJG0540-BS1)				Prepa	ared: 22-Jul-2	2021 Ana	lyzed: 22-Ju	ul-2021 16:1	7		
Nitrate-N	4.94	0.100	0.100	mg/L	5.00		98.9	90-110			
Nitrite-N	4.99	0.100	0.100	mg/L	5.00		99.7	90-110			
Orthophosphorus	5.22	0.10	0.10	mg-P/L	5.00		104	90-110			

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



Eurofins - Test America - Denver	Project: Hansville	
4955 Yarrow Street	Project Number: Hansville	Reported:
Arvada CO, 80002	Project Manager: Betsy Sara	09-Aug-2021 11:01
Certified Analyses included in th	is 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	

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022
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

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



# **Analytical Report**

Eurofins	- Test America - Denver	Project: Hansville	
4955 Yai	rrow Street	Project Number: Hansville	Reported:
Arvada (	CO, 80002	Project Manager: Betsy Sara	09-Aug-2021 11:01
		Notes and Definitions	
D	The reported value is from a dilution		
Н	Hold time violation - Hold time was exceed	ed.	
J	Estimated concentration value detected belo	w the reporting limit.	
U	This analyte is not detected above the report	ing limit (RL) or if noted, not detected above the limit of detection	h (LOD).
DET	Analyte DETECTED		
ND	Analyte NOT DETECTED at or above the r	eporting limit	
NR	Not Reported		
dry	Sample results reported on a dry weight bas	is	
RPD	Relative Percent Difference		
[2C]	Indicates this result was quantified on the se	cond 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

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Environment Testing TestAmerica

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Client Information	Sampler: DCC	BICB		Lab P Sara	M. . Bets	sy A			_			Carr	er Track	ing No	(S):			COC No: 280-23414-6845.1	
Meilani Lanier-Kamaha'o	Phone: 206 - 4	13-54	108	E-Mai Bets		a@Eu	rofins	set.con	n								3	Page: 1/2	
Company: Aspect Consulting, LLC								-		alvs	is R	eques	ted			_		Job # 16047	17
Address: 350 Madison Ave N	Due Date Request	ed:							T		T	1		Т	Т	1-		Preservation Code	
City: Bainbridge Island	TAT Requested (d	ays):		_															M - Hexane N - None
State, Zip: WA, 98110	1									to ARI								D - Nitric Acid	D - AsNaO2 P - Na2O4S
Phone: 206-413-5408	PÖ #: Durebass Orde					6				sub t								F - MeOH	Q - Na2SO3 R - Na2S2SO3
	Purchase Orde W0 #:	r not require	0		r No)	Buffalo)				direct	to ARI	AK						H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate U - Acetone
mikamahao Caspect consulting con	Project #:skip sites/			-	Yes or or No)	(TA				ered)-	9   3						SIO	J - DI Water	V - MCAA W - ph 4-5
Project Name: Hansville Landfill Site:	28006013 - 2Q/ SSOW#:	/3Q/4Q Sam	pling		Yes (	hlorid				lin fil	direc	litect					containers	L-EDA	Z - other (specify)
Washington					d Sam	Vinyl Chloride (TA	als			ate (fie	enice	- ()					r of co	Other:	
			Type (w	atrix water,	iltere n MS/	4	Dissolved Metals	Ammonia/TOC	204	Ortho-phosphate (field filtered)- direct sub	Dissolved Arsenice - direct su	AILUIG					umbei		
Sample Identification	Sample Date	Sample Time	10- S=	solid, aste/oil,	Field Filt	8260C \$	issolv	nomm	Alks/CI/SO4	rtho-p	ssolv	Inder					Total N		
			Preservation (			A	D	S N		N E				+	+		ž	Special Inst	tructions/Note:
MW-5-072121	7/21/21	1000	GV	J		X	X	XN	$\overline{\langle}$										
MW-7-072121	1	0810				11	11	1	T			1				1			
MW-12I-072121		1140				T			Ħ					+		+			p-phos subbed direct to
MW-13D-072121		1255							Ħ			1		T	1				ARI
MW-14-072121		1410				T			Π					1	+	1			
SW-1-072121		1120				11			Ħ							+			
56-4-072121		1210				1	П		Ħ	1		-		- 100					<b>N</b>
56-7-072121		1400							Ħ					- 11					
56-6-072121		1300					$\square$		Ħ					-					
MW-6-072121		1605				11			Ħ		T			28	0-151	093	Chai	in of Custody	
MW-2000-072121	V	~		Y		N	V	V	U		1			-	1	T			
Possible Hazard Identification			Radiological		S	ample	Dis	oosal (	(A)	fee m	ay b	e asse	ssed if	sam	ples			ed longer than 1 r	month)
Deliverable Requested: 1, II, III, IV, Other (specify)		IUWII	Radiological		S	pecial	Instri	n To Cl	ient /QC	C Reg	uiren	Disponents:	osal By	Lab			Arcl	hive For	Months
Empty Kit Relinquished by:		Date:	_		Time				_				Method	of Sh	pment				
Retinquished av	Date/Time: 7/22/2		1030 Comp	any			eived b	y: 7	4	1				_	ate/Tim	e:		AC.A.	Company
Relingershed by:	Date/Time:	l	Comp	any	A	Rec	eived t	by:	/	٩		_		_	12 ate/Tim	-	1	0920	
Relinquished by:	Date/Time:		Comp	any		Rec	eived t	y:						D	ate/Tim	e:			Company
Custody Seals Intact: Custody Seal No.:	1.001.10	1/100				Con	ler Ten	nperatur	P(c)	°C and	Other	Remark	c.						ourbany
Custody Seals Intact: Custody Seal No.: A Yes A No S62855, 1562865,	562864,	15628	58		_				. G	, o ano	2	HO.	s 0 7	R	12				

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8/9/2021

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# - Eurofins TestAmerica, Denver

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

# Chain of Custody Record

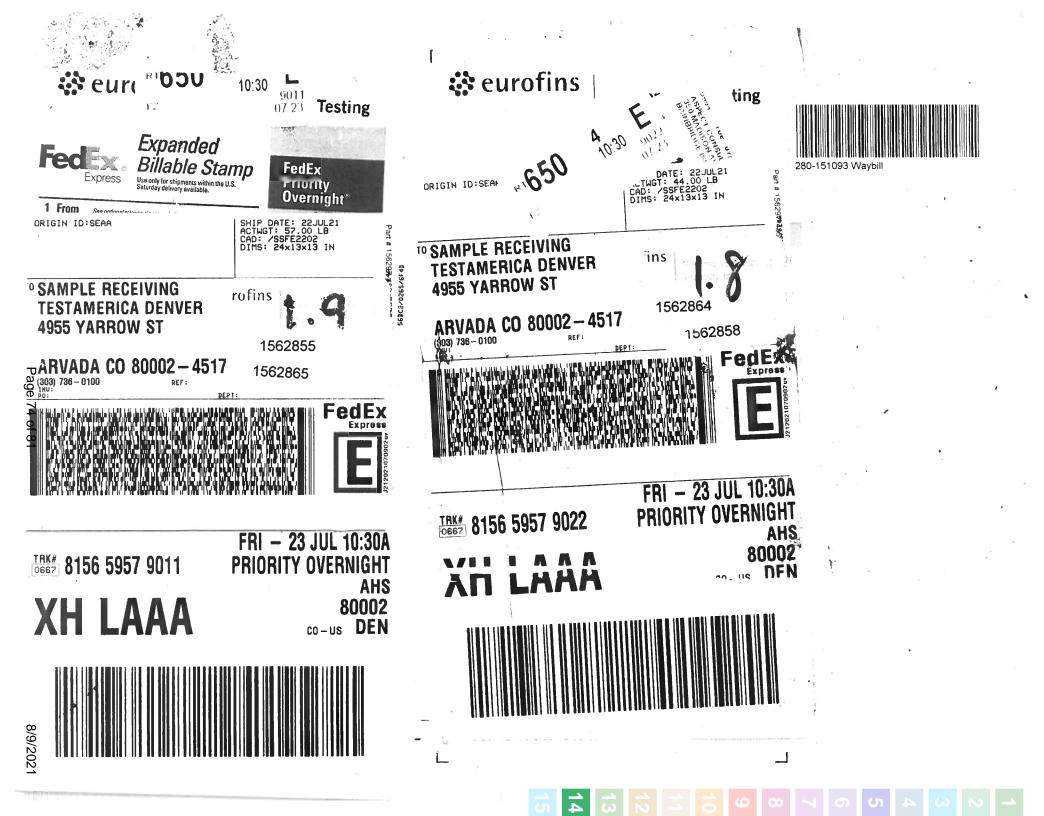
🔅 eurofins |

Environment Testing TestAmerica

Client Information	Sampler: DCE	CB		Lab P Sara		etsy A					_		Carr	ier Trac	king N	o(s)			COC No: 280-23414-6845	1
Client Contact: Meilani Lanier Kamaha'a Company:		413-	5408	E-Ma	il:	ara@	_	finse	t.con	n			1						Page: 2/2	
Aspect Consulting, LLC											lvsi	s Re		stad			_		Job #: 1604	13
Address: 350 Madison Ave N	Due Date Request	led:				3.	Τ											59	Preservation Cod	
City: Bainbridge Island	TAT Requested (d	ays):																	A - HCL B - NaOH	M - Hexane N - None
State, Zip: WA, 98110	-					e c													C - Zn Acetate D - Nitric Acid	0 - AsNaO2 P - Na2O4S
	PO#: Purchase Orde	r not require				19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u>o</u>												E - NaHSO4 F - MeOH G - Amchlor	Q - Na2SO3 R - Na2S2SO3 S - H2SO4
Email: MIKamahao@aspectconsulting.co	WO #:				or No		A Buffalo)				d merea)- airect direct sub to ARI	to ARI							H - Ascorbic Acid	T - TSP Dodecahydrate U - Acetone
Project Name: Hansville Landfill	Project #:skip sites/ 28006013 - 20		nolina		200		(1) api				intered	ct sub						ainers	J - DI Water K - EDTA L - EDA	V - MCAA W - ph 4-5 Z - other (specify)
Site: Washington	SSOW#:		<u></u>		ample		- Vinyi Chioride (1A			11-01	(rieid i Ire - dir	) - direc						f cont	Other:	
Sample Identification	Sample Date	Sample Time		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered S	E .	8260C SIM			Alks/Cl/SO4	Urano-priospinate (rieta niterea)- direct sub to Akt	Nitrate/Nitrite (IC) - direct sub						Total Number o	Special In	structions/Note:
Tere Pie d	~	$\geq$	Preserv	ation Code:	X	XA	C	S	N	IN	D	N						X		
Trip Blank				W	$\mathbb{H}$		4		_		+			$\left  \right $						
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· · · · · · · · · · · · · · · · · · ·					$\mathbb{H}$		+		_	_	+			$\left  \right $						2.o-phos subbed direct to ARI
					Н		+		+	+	+		+	$\left  \right $						
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					H		╉	+	+	-+		+	+-	╞╴╽	-+					
Possible Hazard Identification Non-Hazard Flammable Skin Irritant Po. Deliverable Requested: I. II. III. IV, Other (specify)	son B Unk	nown 🗔	Radiologic	al		Sam Spec	Rel	turn 1	To Cl	lient			Disp	<b>ssed</b> osal B	if san By Lab	nples	are re		ed longer than 1	Months
Empty Kit Relinguished by:		Date:			Tin			ISTIUC	.0005	sige	Requ	merne		Metho	1. (0)					
Retinquiched by	Date/Time:					_	eceiv	ed by:	2		1.1			Metho		Datectin	ne:-		1	Company
Relinguished by:	Date/Time:		1030	Company ACDA Company	A	R	eceiv	ed by:		1					-	Date/Tir		12	1 0920	Company ETADEN Company
Relinquished by:	Date/Time:			Company		R	eceiv	ed by:								Date/Tir				Company
Custody Seals Intact: Custody Seal No.: K62855, 19	1281510	INGIL	15/2			с	ooler	Temp	eratur	e(s) °(	C,and (	Other F	Remark	0.6		64				
2 Yes A No 562853 [	0100, 3	6767	1367	X J X				1.	¥,	1,0	1		ĽF	10.6	2	4í	2	_		
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8/9/2021



Arvada, CO 80002	4955 Yarrow Street	Eurofins TestAmerica, Denver
		enver

# **Chain of Custody Record**



1S Environment Testing America

Phone: 303-736-0100 Fax: 303-431-7171													
Client Information (Sub Contract Lab)	Sampler:			Lab PM: Sara, Betsy A	setsy /	A			Carrier Tracking No(s)	ng No(s):		COC No: 280-578239.1	
- 1	Phone:			E-Mail: Betsy.\$	òara@	E-Mail: Betsy.Sara@Eurofinset.com	com	- 0	State of Origin: Washington			Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc.				SA	credita	Accreditations Required (See note): State Program - Washington	d (See note): ashington					Job #: 280-151093-1	
Address: 10 Hazelwood Drive	Due Date Requested: 8/5/2021	9d:					Analysis		Requested			Preservation Codes:	des:
City:	TAT Requested (days):	iys):							-	_		B - NaOH	M - Hexane N - None
Amherst	4			100		_	_		_	_	1	C - Zn Acetate	0 - AsNa02
State, Zip: NY, 14228-2298												E - NaHSO4	Q - Na2SO3 R - Na2SO3
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			0)		thod						G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Email:	WO #:			s or N	No)	cal Me					rs	I - Ice J - DI Water	U - Acetone V - MCAA
Project Name: Honesville Landfill	Project #: 28006013			e (Ye	s or	D) Lo			_	_	Itaine		vv - pH 4-5 Z - other (specify)
Site: Hansville	SSOW#:			Samp	SD (Y	OC (MC					of co	Other:	
			ф —	Matrix	n MS/M	51M/503					umber		
		Sample	<u> </u>		erform	260C_5					otal N		
	X	X	Preservation Code:		X	1			-		X		
MW5-072121 (280-151093-1)	7/21/21	10:00 Pacific	V	Water		×					3		
MW7-072121 (280-151093-2)	7/21/21	08:10 Pacific	<	Water		×					2 3		
MW121-072121 (280-151093-3)	7/21/21	11:40 Pacific	<	Water		×					2		
MW13D-072121 (280-151093-4)	7/21/21	12:55 Pacific	<	Water		×					1 3		
MW14-072121 (280-151093-5)	7/21/21	14:10 Pacific	<	Water		×					1 3		
SW1-072121 (280-151093-6)	7/21/21	11:20 Pacific	<	Water		×					3		
SW4-072121 (280-151093-7)	7/21/21	12:10 Pacific	<	Water		×					3		
SW7-072121 (280-151093-8)	7/21/21	14:00 Pacific	<	Water		×					1 3		
SW6-072121 (280-151093-9)	7/21/21	13:00 Pacific	<	Water		×					1 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 current 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.	ca places the ownersl being analyzed, the signed date, return the signed	nip of method, samples must t ad Chain of Cu	analyte & accredita be shipped back to stody attesting to s	ition compliai the Eurofins aid complicai	nce upo TestArr nce to E	n out subcont nerica laborato Eurofins TestA	rract laborator bry or other in merica.	ies. This sar structions wil	nple shipmen be provided.	t is forwarde Any change	d under cha as to accrec	ain-of-custody. If the ditation status should	laboratory does not current be brought to Eurofins
Possible Hazard Identification					Sam	Beturn To Client	al (A fee) Client	nay be as	assessed if sar	samples a ah	re retain	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	1 month) Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank:	ble Rank: 2			Spec	Special Instructions/QC		Requirements:	S				
Empty Kit Relinquished by:		Date:		Т	Time:				Method of	Method of Shipment:			

1202/8/8

Relinquished by:

Custody Seals Intact: ∆ Yes ∆ No

Custody Seal No .:

Date/Time: 7/2(/2)Date/Time: Date/Time:

Company

Received by: Received by:

Date/Time: 7/28//2/

Date/Time: Date/Time:

Company

Company

1.4

#1

S ICK

Ver: 06/08/2021

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Cooler Temperature(s) °C and Other Remarks:

1307

Company ETQ DEN Company

Relinquished by:

Relinquished by: Why A. A.R.

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Environment Testing America

4955 Yarrow Street Arvada, CO 80002	0	Chain of Custody Record	F Cust	ody R	eco	rd					Environment Testing America
Phone: 303-736-0100 Fax: 303-431-7171	Samoler			Lab PM	2		Carrier Tracking No(s):	ig No(s):		COC No:	
Client Information (Sub Contract Lab)				Sara.	Sara, Betsy A	A				280-578239.1	
	Phone:			E-Mait Betsy	.Sara(	E-Mait Betsy.Sara@Eurofinset.com	State of Origin: Washington	_		Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc.					Accredita State F	Accreditations Required (See note): State Program - Washington				Job #: 280-151093-1	
Address: 10 Hazelwood Drive.	Due Date Requested: 8/5/2021	ed:				Analy	alysis Requested			Preservation Codes:	S: M • Hexane
City: Amherst	TAT Requested (days):	ays):								H cetate	N - None O - AsNaO2
State, Zp: NY, 14228-2298											P - Na2O4S Q - Na2SO3 R - Na2S2O3
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #				0)	thod				ic Acid	S - H2SO4 T - TSP Dodecahydrate
	WO #:					cai Me			rs	I - Ice J - DI Water	V - MCAA
Project Name: Hansville Landfill	Project #: 28006013					DD) Lo			ntaine	L-EDA	Z - other (specify)
Site: Hansville	SSOW#:				_	0C (M			of co	Other:	
		Sample	Sample Type IC=comp.	Matrix (W=water, S=solid	ld Filtered form MS/N	0C_SIM/503			al Number		
Sample Identification - Client ID (Lab ID)	Sample Date	lime	G=grab) e	Ľ		8			1	Ì	Special Instructions/Note:
	X	X	Preservation Code:	on Code:	X				X		
MW5-072121 (280-151093-1)	7/21/21	10:00 Pacific		Water		×			3		
MW7-072121 (280-151093-2)	7/21/21	08:10 Pacific		Water		×			w		
MW12I-072121 (280-151093-3)	7/21/21	11:40 Pacific		Water		×			w		
MW13D-072121 (280-151093-4)	7/21/21	12:55 Pacific		Water		×		/	3		
MW14-072121 (280-151093-5)	7/21/21	14:10 Pacific		Water		×			ω		
SW1-072121 (280-151093-6)	7/21/21	11:20 Pacific		Water		×			3		
SW4-072121 (280-151093-7)	7/21/21	12:10 Pacific		Water		×			w		
SW7-072121 (280-151093-8)	7/21/21	14:00 Pacific		Water		×			3		
SW6-072121 (280-151093-9)	7/21/21	13:00 Pacific		Water		×			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.	America places the owners matrix being analyzed, the ent to date, return the sign	hip of method, au samples must be ed Chain of Cust	halyte & accre shipped bac ody attesting	editation compli it to the Eurofin to said complic	ance up s TestA ance to	on out subcontract laborate merica laboratory or other in Eurofins TestAmerica.	ories. This sample shipmeni nstructions will be provided.	t is forwarded ur Any changes to	nder ch b accre	nain-of-custody. If the lab iditation status should be	poratory does not currently brought to Eurofins
Possible Hazard Identification					San	Sample Disposal ( A fee	may be	samples are	retai	stained longer than 1 n	nonth)
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	able Rank: 2			Spe	- YI	Requirements:				
Empty Kit Relinquished by:		Date:			Time:		Method c	Method of Shipment:			
Relinquished by: () / . / .	Date/Time: 7/~	11/11/2	12,77	Company STCI NS AV		Received by:		Date/Time:			Company
Relinquished by:	Date/Time:			Company		Received by:		Date/Time:			Company

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Relinquished by:

Date/Time

Company

Received by:

Date/

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Ver: 06/08/2021

14

Cooler Temperature(s) °C and Other Remarks:

Custody Seals Intact: Custody Seal No.: ∆ Yes ∆ No

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Eurofins TestAmerica, Denver														
4955 Yarrow Street Arvada, CO 80002 Phone: 303-736-0100 Fax: 303-431-7171	0	Chain o	Chain of Custody Record	dy Red	cord						15.2	🔅 eurofins	Environment Testing America	Testing
Client Information (Sub Contract Lab)	Sampler:			Lab PM: Sara, Betsy A	etsy A			Carrier	Carrier Tracking No(s):	÷	20	COC No:		
Shipping/Receiving	Phone:			E-Mail: Betsy.S	E-Mail: Betsy.Sara@Eurofinset.com	nset.com		State of Origin: Washington	Origin: naton		ק ק	Page: Page 1 of 1		
TestAmerica Laboratories, Inc.				Acc	reditations Re ate Progran	Accreditations Required (See note) State Program - Washington	ote): Jton				<u> 2</u> 5	Job #:		
Address: 10 Hazelwood Drive,	Due Date Requested: 8/8/2021	ed:				An	lalvsis	Remiested	٤			Preservation Codes:	des:	
City: Amherst	TAT Requested (days):	ays):			_				č	-		- HCL - NaOH	M - Hexane N - None	
State. Zip: NY, 14228-2298											πσο	C - Zn Acetate D - Nitric Acid E - NaHSO4	0 - AsNaO2 P - Na204S O - Na2SO3	
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #			)	od						o ۳ I	F - MeOH G - Amchlor	R - Na2S2O3 S - H2SO4	
Email:	WO #:			or No							- 7 I	H - Ascorbic Acid I - Ice	T - TSP Dodecah U - Acetone	hydrate
Project Name: Hansville Landfill	Project #: 28006013			e (Yes								K - EDTA L - EDA	W - pH 4-5 Z - other (specify)	÷
ste: Hansville	SSOW#:			Sampl							-	Other:		
		Sample	Sample I Type (	Matrix (w=water, S=solid, d Filtered	orm MS/I C_SIM/503						Number			
			Preservation Code:	Ξ	-					-	To	Special I	Special Instructions/Note:	te:
AMW6-072121 (280-151166-1)	7/21/21	16:05 Pacific		Water	×						3	151166-5-	Laran	han 1
10 <u>7 7</u>						-					-	plound in z	Libler prid	
18									+-					
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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 satus should be brought to 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.	nerica places the ownershi atrix being analyzed, the si atrix date, return the signer	ip of method, ana amples must be : d Chain of Custo	lyte & accreditati shipped back to t dy attesting to sa	on compliance i ne Eurofins Tes d complicance	upon out subc lAmerica labo lo Eurofins Te	ontract laboral atory or other stAmerica.	tories. This s instructions v	ample shipm will be provid	ent is forward ed. Any chan	ed under cha ges to accre	ain-of-cus ditation s	stody. If the labo tatus should be t	ratory does not curre prought to Eurofins	ently
Possible Hazard Identification Unconfirmed					Sample Di	Sample Disposal ( A	fee may b	may be assessed if samples	d if samp	les are re	tained	are retained longer than	1 month)	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	able Rank: 2			Special Ins	Special Instructions/QC	C Requirements:	ments:	ints:				MORINS	
Empty Kit Relinquished by:		Date:		Time:	ne:			Z	Method of Shipment:	ment:				
Relinquished by	Date/Time: 7/27/21	144	S Con	Company	Received by	l by:			Dat	Date/Time:			Company	
Relinnuished by	Date/Time:		Соп	Company	Received by:	l by:	5		Dat	Date/Time:			Company	
	Date/Time:		Соп	Company	Received by:	by:	<b>X</b>	$\mathbb{V}$	Date	Date/Time: +129/2/		4000	Company TVA Q	
A custody seals intact: Custody Seal No.: A Yes ∆ No					Cooler T	Cooler Temperature(s)	Cand	Other Remarks:	N	U	Ť.	ICE		
L													Ver: 06/08/2021	

# Login Number: 151093 List Number: 1 Creator: O'Hara, Jake F

backgroundThe cooler's custody seal, if present, is intact.TrueThe cooler's custody seal, if present, is intact.TrueSamples were received on ice.TrueCooler Temperature is acceptable.TrueCooler Temperature is recorded.TrueCOC is present.TrueCOC is filled out in than and legible.TrueCOC is filled out with all pertinent information.TrueSamples are received within Holding Time (Excluding tests with immediate the Cooler Temperature is recorded.TrueSamples are received within Holding Time (Excluding tests with immediate the TrueRefer to job narrative for detailsSample containers have legible labels.TrueContainers are not broken or leaking.TrueSample containers have legible labels.TrueSample containers are used.TrueSample sample containers are used.TrueSample vials do not have headspace or bubble is <6mm (1/4") in diameter.TrueYoAA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.TrueSamples are not present.TrueSample soutine splitting or compositing.TrueSample do not require splitting or compositing.TrueSample do not have headspace or bubble is <6mm (1/4") in diameter.TrueSample vials do not have headspace or bubble is <6mm (1/4") in diameter.TrueSamp	Question	Answer	Comment
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Samples requiring field filtration have been filtered in the field. True	Sampling Company provided.	True	
	Samples received within 48 hours of sampling.	True	
Chlorine Residual checked. N/A	Samples requiring field filtration have been filtered in the field.	True	
	Chlorine Residual checked.	N/A	

Job Number: 280-151093-1

#### Login Number: 151093 List Number: 2 Creator: Sabuda Brendau

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Job Number: 280-151093-1

Creator: Sabuda, Brendan D		
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.	False	No: Water present in cooler; indicates evidence of melted ice
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	11.4 #1
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	

# List Source: Eurofins TestAmerica, Buffalo List Creation: 07/28/21 01:44 PM

# Login Number: 151166 List Number: 1 Creator: Collins, Janice S

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.	False	No: Water present in cooler; indicates evidence of melted ice
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	
COC is present.	False	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
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.	False	Refer to job narrative for details
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	

List Source: Eurofins TestAmerica, Denver

#### Login Number: 151166 List Number: 2 Creator: Sabuda Brendan D

Job Number: 280-151093-1

List Creation: 07/29/21 03:32 PM

List Source: Eurofins TestAmerica, Buffalo

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	2.5 #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	